

## CURRICULUM VITAE of ALFIO QUARTERONI

Professor of Mathematics  
Dr. h.c. in Naval Engineering



### Current Positions

- Full Professor of Numerical Analysis at the Politecnico di Milano (Italy) [November 1989 – present]
- Director of MOX (Laboratory of Modeling and Scientific Computing) Politecnico di Milano <https://mox.polimi.it/>
- Professor Emeritus, Ecole Polytechnique Fédérale de Lausanne, EPFL [since December 2017]

### Previous Positions

- Full Professor of Mathematics and Director of the Chair of *Modelling and Scientific Computing* at the Ecole Polytechnique Fédérale de Lausanne, EPFL [July 1998 – December 2017] <http://cmcs.epfl.ch/>
- Full Professor of Mathematics, University of Minnesota at Minneapolis [1990 - 1992]
- Full Professor of Numerical Analysis, Catholic University of Brescia, and Chairman of the Department of Mathematics [November 1986 – October 1989]
- Researcher at the Istituto di Analisi Numerica of the C.N.R. (Italian Research Council) of Pavia [April 1977 – October 1986]
- Research Fellow in Numerical Analysis at Université P&M Curie, Paris [October 1979 – August 1980]
- Military Service (Artillery Officer) [January 1976 – April 1977]
- Researcher at Montedison – Donegani Research Institute, Novara (Italy) [July 1975 – January 1976]

- Italian Laurea in Mathematics, University of Pavia (Italy) [November 1971 – June 1975]

### **Leadership in Research**

- (First) Director of CADMOS (Center for Advanced Modeling Science), EPFL, Lausanne [2009-2014]; CADMOS is a center involving several tens of research laboratories from the Universities of Geneva (UNIGE) and Lausanne (UNIL) and the EPFL to develop a long-term expertise in computational science, high performance computing and modeling of large and complex systems  
<http://www.cadmos.org/>
- Founder and First Director [2010-2016] of MATHICSE (Mathematical Institute of Computational Science and Engineering), EPFL, an Institute comprising 5 chaired laboratories with about 100 people <http://mathicse.epfl.ch/>
- Founder and First Director [2002-2013] of MOX, Politecnico di Milano (currently hosting 20 faculty members and about 50 young scientists) <https://mox.polimi.it/>
- Scientific Director at C.R.S.4 (Center for Advanced Research and Development in Sardinia) [1992 - 1998], an international research center headed by Carlo Rubbia, accounting about 80 researchers <http://www.crs4.it/>

### **Leadership in Industrial Innovation**

- Co-founder and president of MOXOFF SpA, a spinoff company of Politecnico di Milano for applied mathematics and numerical simulation [2010 -]  
<http://www.moxoff.com/en/>
- Co-founder and member of the BoD of MATHESIA SrL [2015-], a crowdsourcing company helping entrepreneurs and mathematicians to meet and find mathematical solutions to industrial and societal problems  
<http://www.mathesia.com/projects/>
- Co-founder and president of MATH&SPORT SrL [2016-], a company for analytical innovation and data analysis in sports for teams and athletes  
<http://www.mathandsport.com/index.php/>

### **Temporary Visiting Positions**

- Visiting professor at Dept. of Mechanical and Aerospace Engineering, Stanford University, April 2013
- Visiting professor at LJLL (Laboratoire Jacques-Louis Lions), Université de Paris 6, France, March 2013
- Visiting professor at Texas A&M University, College Station, February 2010
- Visiting scientist at the Institute of Mathematics and Applications of the University of Minnesota, 1986
- Associate Researcher of the French C.N.R.S. at the Laboratoire d'Analyse Numérique of the University of Paris VI, 1985
- Visiting Associate Professor at the School of Mathematics of the University of Minnesota, 1984
- Visiting Scientist at the Institute for Computer Applications in Science and Engineering (ICASE), NASA Langley Research Center, Hampton (Virginia), 1982
- Visiting Member at the Laboratoire d'Analyse Numérique of the University of Paris VI, 1979 - 1980

- Visiting Member at the Institute für Angewandte Mathematik, University of Bonn, Germany, 1978

### **Member of the Following Academies**

- Academia das Ciencias de Lisboa (Lisbon Academy of Sciences) (foreign member since 2018)
- Elected Full Member of Academia Europaea (elected full member since 2014) [http://www.ae-info.org/ae/User/Quarteroni\\_Alfio](http://www.ae-info.org/ae/User/Quarteroni_Alfio)
- European Academy of Sciences (member since 2010) - Head of Computation and Information Sciences Division (2014-2017)
- SATW (the Swiss Academy of Engineering Sciences) (expert since 2012)
- European Society of Computational Methods in Sciences and Engineering (honorary fellow since 2010)
- Accademia Nazionale dei Lincei, Roma (Italian National Academy of Sciences) (member since 2004)
- Istituto Lombardo di Scienze e Lettere (Lombard Academy of Science) (full member since 1995)

### **Honors**

- Honorary member of ECMI (European Consortium of Mathematics in Industry) (since 2014)
- Member of the IMU Circle (International Mathematical Union) (since 2014)
- Honorary Fellow of European Society of Computational Methods in Sciences and Engineering (2010)
- Fellow of SIAM (since 2009 – first row)
- Member of SIAM Board of Trustees (2009-2013)
- Paul Harris Fellow, 2008
- IACM (International Association of Computational Mechanics) Fellow Award, 2004
- Laurea Honoris Causa in Naval Engineering, Università di Trieste, 10 October 2003
- Recipient of the Galileian Chair, Scuola Normale Superiore, Pisa, Italy (2001)
- Research consultant of the ICASE, NASA Langley Research Center, Hampton, VA (1984-88)
- Fellow of the Minnesota Supercomputer Institute, Minneapolis, Minnesota (1990-92)
- Former student of Collegio Ghislieri, Pavia (Italy) (1971 – 1975)

### **Awards**

- NASA Group Achievement Award for the pioneering work in Computational Fluid Dynamics, 1992
- Premio Agrumello, 2003
- SIAM Outstanding Paper Prize, 2004
- Plenary Speaker at the International Congress of Mathematicians, Madrid 2006
- Fanfullino d'oro della Riconoscenza 2006, Città di Lodi
- Premio Scientifico Capo D'Orlando, 2006, Museo Mineralogico Campano
- Recipient of the ERC Advanced Grant « MATHCARD », 2008-2013

- Recipient of the ERC PoC (Proof of Concept) Award "From Math to Ward", August 2012
- Feng Kang Prize 2013 of the Chinese Academy of Sciences
- Premio Ghislieri alla carriera 2013 (Ghislieri Prize 2013)
- Recipient of the ERC PoC (Proof of Concept) Award "Math4AAARisk", June 2015
- Recipient of the ERC Advanced Grant « i-HEART », 2017-2022
- Galileo Galilei International Prize for Science 2015  
<http://www.premiogalilei.it/html/vincitori/vincitori.php?id=65>
- The Euler Lecture 2017 <http://www.euler-lecture.berlin/>
- Premio 2017 per l'Arte, Pro-Loco Lodi, 22 September 2017
- Premio Pianeta Galileo, Tuscany Regional Council, 2019

### **Selected Service Activities in Italy**

- Member of the "Committee for the Applications of Mathematics" of the Italian Research Council (C.N.R.) (1986-90)
- Member of the Scientific Board of SIMAI (Italian Society of Industrial and Applied Mathematics) (1996-98) and vice-president (1996-98)
- Member of the Scientific Committee of IMATI (former IAN), CNR, Pavia, Italy
- Chairman of the Evaluation Panel of Mathematics and Computer Science of CIVR, the Committee for Research Evaluation of the Italian Ministry of Research and University
- Member of the Scientific Committee of SCOPE, University of Naples (2009-2014)
- Member of the Advisory Board of the Doctoral School in Mathematics, University of Padova (2009-2012)
- Chairman of the Evaluation Panel of Mathematics and Computer Science of VQR 2004-2010 (Valutazione della Qualità della Ricerca) ANVUR, the National Agency for Research Evaluation of the Italian Ministry of Research and University, 2011-2013
- Member of the Scientific Committee of CEN (European Centre of Nanomedicine), Milan (2009-2015)
- Scientific Coordinator of SISSA MathLab, Trieste (Italy) (2010-2015)
- Member of the International Advisory Board of IUSS Institute of Advanced Studies, Pavia (2017-)
- Member of the International Advisory Board of IMT School for Advanced Studies, Lucca (2018-)

### **Selected Service Activities in Switzerland**

- Member of the Research Board of EPFL (Ecole Polytechnique Fédérale, Lausanne) (1998-2004)
- Member of the Advisory Board of the Centre Interfacultaire Bernoulli, EPFL, since its foundation
- Board for Academic Promotion (CPA) of EPFL (since 2001)
- Member of the Doctoral School Board of EPFL (2002-2006)
- Chairman of the Mathematics Recruiting Commission of the EPFL (2004-2009)
- Chairman of the Recruiting Commission of MATHICSE (Mathematics Institute for Computational Sciences and Engineering) of the EPFL (2010-2015)

### **Selected Service Activities: International**

- Vice-chairman of the Mathematics and Computer Science TMR (Training, Mobility and Research) evaluation panel of the E.U., 1997
- Member of the scientific committee of ICOSAHOM Conference Series (1989 -)
- Member of the scientific committee of DD (Domain Decomposition) Conference Series (1998-2018)
- Chairman of the Mathematics and Computer Science RTN (Research Training Network) evaluation panel of the E.U., 1999
- Chairman of the AMIF (Applied Mathematics for Industrial Flows) research programme of the ESF (European Science Foundation) (1996-2001)
- Member of the Scientific Committee of INRIA (Institut de Recherche en Informatique et Automatique) (France), (1999-2003)
- Member of the Scientific Advisory Committee of the Research Center "MATHEON: Mathematics for key Technologies", TU Berlin (2003-2010)
- Member of the Scientific Steering Committee of the Oxford Centre for Nonlinear PDEs (since 2008)
- Member of the International Advisory Committee of CEMAT, IST Lisbon (since 2008)
- Member of the International Scientific and Technological Advising Committee of Laboratório Nacional de Computação Científica (LNCC), Rio de Janeiro, Brasil (since 2008)
- Member of the Advisory Board of the NSF Institute for the Life Sciences, Rice University, Houston University and the Texas Medical Center (since 2009)
- Chairman of the panel for the selection of invited speakers in Session 16 (Numerical Analysis and Scientific Computing) at ICM 2006 (International Congress of Mathematicians)
- Member of the SIAM Subcommittee on Journals (2009-)
- Member of the Research Review for Applied Mathematics of QUANU (Quality Assurance Netherland Universities), 2009
- Member of the Scientific Advisory Board of ACMAC (Archimedes Center for Modeling, Analysis and Computation), Crete (since 2010)
- Member of the Scientific Committee of FSMP (Fondation Sciences Mathématiques de Paris), (since 2010)
- Member of the SIAM Board of Trustees (2009-2012)
- Member of the SIAM Fellow Committee (2009-2011)
- Member of the Advisory Board of the Max-Planck-Institut für Mathematik (since 2011)
- Chairman of the Lagrange Prize Committee, ICIAM 2011
- Chairman of the Gauss Prize Committee, IMU 2014
- Member of the Scientific Advisory Board of Oberwolfach (since 2014)
- Member of the Scientific Committee of the Computational Science Division of European Academy of Sciences (since 2014)
- Member of the ERC StG Panel PE1 (Mathematics), year 2012
- Chairman of the ERC CoG Panel PE1 (Mathematics), years 2014, 2016, 2018
- Member of the Scientific Board of the Riemann International School of Mathematics (2016-)
- Chairman of the Scientific Program Committee of ICIAM 2019, Valencia
- Member of the Scientific Committee of Centro Internacional de Matemática (CIM), Portugal (2018-)
- Member of the Electoral Board of the Sedleian Chair, University of Oxford, 2018
- Member of the SIAM J. Von Neumann Lecture 2019 Committee

### **Editor in Chief of the Following Book Series**

- Book series «MS&A, Modeling, Simulation and Applications», Springer-Verlag. Founder and Editor in Chief (since 2009)
- Book series «Unitext», Springer-Verlag. Editor in Chief (since 2009)

### **Associate Editor of the Following Book Series**

- Book series «Unitext», Springer-Verlag Italia, Milan, Editor (1998-2008)
- Book series «Scientific Computation», Springer-Verlag, New York, Editor (1998-)

### **Associate Editor of the Following Journals**

- S.I.A.M. Journal on Numerical Analysis (1991-1996, 2002-2007)
- MMAN (formerly R.A.I.R.O.) (1995-present)
- Mathematical Models and Methods in Applied Sciences (1992-present)
- Journal on Numerical Mathematics (formerly East-West Journal on Numerical Mathematics) (1993-present)
- Journal of Computational Mathematics (1994-present)
- Computing and Visualization in Science (1996-2006)
- JEMS (Journal of the European Mathematical Society) (1998-2010)
- MECCANICA (1998-2004)
- Journal of Mathematical Fluid Mechanics (1998-present)
- Applied Numerical Mathematics (1999-2018)
- Annali di Matematica Pura e Applicata (1999-present)
- PCFD (Progress in Computational Fluid Dynamics) (2000-present)
- CMAME (Computer Methods in Applied Mechanics and Engineering) (2001-present)
- Advances in Computational Mathematics (1992-95)
- S.I.A.M. Journal on Multiscale Modeling and Simulation (MMS) (2002-present)
- Numerische Mathematik (2004-present)
- Revista Matematica Complutense (2004-present)
- Networks and Heterogeneous Media, AIMS (2006-present)
- Portugaliae Mathematica (2008-present)
- Environmental Semeiotics (2008-present)
- Communications in Applied Mathematics and Computational Science (CAMCoS) (2008-present)
- MathematicS In Action, SMAI, Paris (2008-present)
- Journal de Mathématiques Pures et Appliquées (2009-present)
- Int. J. Num. Meth. Biomed. Engng. (IJNMBE) (2010-present)
- Numerical Algorithms (2009-present)
- Journal on Mathematics in Industry (2010-present)
- Journal of Computational Dynamics (2011-present)
- Vietnam Journal of Mathematics (VJM), (2011-present)
- In Silico Pharmacology, Springer (2012-present)
- SMAI Journal of Computational Mathematics (2014-present)
- CSIAM Transaction on Applied Mathematics (CSAM) (2019-present)

### **Research Fields**

- Mathematical Modelling, Numerical Analysis, Scientific Computing
- Theoretical Analysis: Numerical Approximation of Partial Differential Equations by Finite Elements, Finite Differences, Finite Volumes, Spectral Methods, Domain Decomposition Methods, Reduced Basis Methods, Isogeometric Analysis
- Applications to: fluid mechanics; aerospace engineering; yacht engineering ; geophysics ; acoustics, elastic, seismic and electromagnetic wave propagation phenomena ; architectural landscape design by mathematical modeling ; improvement of sports performance (America's cup sailing yachts, olympic rowing, swimsuits) ; sports and rehabilitation engineering
- Mathematical modeling for Medicine: Human Circulatory System, Heart Integration (electrophysiology, cellular ionic activity, mechanical contraction and relaxation, ventricular fluid dynamics, valve dynamics), assessment of risk for aneurysms, cerebrospinal fluid dynamics, optimization of prosthetic implants and surgical planning.

### **Master Students, PhD Students, and Post-Doctors Supervised**

- Mentor and supervisor of 58 PhD students in mathematics (top 100 supervisors in Mathematics ever)

<https://genealogy.math.ndsu.nodak.edu/id.php?id=95586>,  
<https://genealogy.math.ndsu.nodak.edu/most-students.php?count=100>

- Mentor and supervisor of over 50 master students, and more than 100 post-docs.
- In the past ten years, many young researchers previously mentored by the PI have been appointed Professors or Researchers at: EPFL (Lausanne), Politecnico di Milano (Italy), Emory University (USA), SISSA (Italy), University of Coimbra (Portugal), University of Aachen (Germany), University College London (UK), Université de Grenoble (France), Université de Franche-Compté (France), Université Paris 13 (France), University of Houston (USA), University of Texas Austin (USA), TU Delft (NL), Loughborough University (UK), University of Oxford (UK), University of Sheffield (UK), Duke University (USA). Many others are now chief scientists in R&D divisions of Banks, Insurances, Industries, Formula One racing teams, in several Countries. Two former PhD students, A. Manzoni in 2012 and F. Negri in 2015, have won the prestigious ECCOMAS PhD Award for the best European PhD thesis on computational methods in applied sciences and engineering.

### **Publications : Statistics Author of 25 [\[books\]](#) (23 published by Springer, 1 by Oxford University Press, 1 by Esculapio)**

- Editor of 9 [\[books\]](#) (7 published by Springer, 1 by North-Holland Elsevier, 1 by the American Mathematical Society)
- Author of more than 320 peer reviewed [\[papers\]](#): 230 in International Journals, 90 in Conference Proceedings
- GoogleScholar:

<https://scholar.google.ch/citations?user=UiDIKcAAAAJ&hl=it&oi=ao>

- Scopus :  
<https://www.scopus.com/authid/detail.uri?authorId=35618484900>

### **Research Grants and Contracts (since 1998)**

- Principal investigator, Swiss National Science Foundation, Project Nr. 21-54139.98 on "Domain decomposition and adaptive methods: analysis, development and applications", October 1998 - September 2000
- Co-principal investigator, Swiss National Science Foundation, Project Nr. 21-57119.99 on Bubble-stabilized Spectral Element Methods for Viscoelastic Flows", October 1999 - September 2001
- Principal investigator of a research project "Multiscale Methods in Biofluidmechanics", Politecnico di Milano, October 1999 - September 2001
- Cofin 1999 (MIUR, Italian Ministry for University, Education and Research) : « Approximation of non-coercive problems with applications to solid mechanics and electromagnetism »
- Principal investigator, Brite/Euram (OFES N. 97.0427-1) « IDEMAS : Industrial Demonstration of Accurate and Efficient Multidimensional Upwind and Multigrid Algorithms for Aerodynamic Simulation on Unstructured Grids ». Project Coordinator : Prof. H. Deconink, Von Karman Institute, Belgium. Main industrial partners : Dassault Aviation, ALENIA, DASA. (June 1999 - November 2000)
- Cofin 2000 (MIUR, Italian Ministry for University, Education and Research) : « Methods and Multiscale modelling for transfer and propagation problems »
- Principal investigator, Swiss National Science Foundation, Project Nr.21-59230.99 on "Mathematical modelling and numerical simulation of fluid flow and mass transport processes in heterogeneous media ", October 2000 - September 2003
- Principal investigator, Swiss National Science Foundation, Project Nr. 20-61862.00 on "Multimodels and multidomain methods for fluid-structure interaction problems", April 2001 - March 2003
- Cofin 2001 (MIUR, Italian Ministry for University, Education and Research) : « Numerical Methods in Fluid Dynamics and Electromagnetism »
- National Project Coordinator : Agenzia 2000-CNR (Italian National Council for Research), « Modelling fluid-structure interaction in the arterial system ». (CNRC00A3F1).
- Alinghi (Swiss Challenge for America's Cup 2003) - EPFL Scientific Partnership (2001-2003)
- Principal investigator, Swiss National Science Foundation, Project Nr. 20-65110.01 on "Accurate Solution of Navier-Stokes equations in moving domain and with non-standard boundary conditions", February 2002 - January 2004
- Principal investigator, Swiss National Science Foundation, Project Nr. 20-100637 on "Multiscale Models for blood flow", April 2003 - May 2004
- Project Coordinator. HaeMOdel, European Union Research Training Network on Mathematical Modelling for Haemodynamics. Partners : Politecnico di Milano, Ecole Polytechnique Fédérale de Lausanne, Imperial College, London, Technical University Graz, INRIA and University Paris VI, Instituto Superior Tecnico Lisbon. October 2002 - September 2006



- CTI (Swiss Commission for Technology and Innovation) - Debiotech SA (and Insel Hospital, Bern), Chronodial Project, January 2003 - December 2004, Principal Investigator
- Cofin 2003 (MIUR, Italian Ministry for University, Education and Research) : « Numerical Modelling for Scientific Computing and Advanced Applications », Principal Investigator
- INDAM (Istituto Nazionale di Alta Matematica), Project : « Numerical Modelling for Scientific Computing and Advanced Applications », May 2003 - April 2004
- Principal investigator, Swiss National Science Foundation, Project Nr. 200020-101800 on "Mathematical modelling and numerical simulation of fluid flow and mass transport processes in heterogeneous media", November 2003 - September 2005
- CTI (Swiss Commission for Technology and Innovation) - Alinghi (Swiss Challenge for America's Cup 2003 – Defender of America's Cup 2007) - EPFL Scientific Partnership. (2001 -2007), Co-principal investigator
- Solar Impulse (Bertrand Piccard's Round-the-World Flight in a Solar Aircraft) - EPFL Scientific Partnership. Icare Project. (2004-2007), Co-principal investigator
- SRE, Sport and Rehabilitation Engineering , EPFL Project (2004-2007), Co-principal investigator
- Principal investigator, Swiss National Science Foundation, Project Nr. 200021-103809 on "Finite element methods for Navier-Stokes equations with free-surface", May 2004 - April 2006
- Co-principal investigator, Swiss National Science Foundation, Project Nr. 200020-109602 on "Continuous/discontinuous finite element approximation of differential problems with multiple scales in heterogeneous media", October 2005 - September 2006
- Principal investigator, Swiss National Science Foundation, Project Nr. 200021-109378 on "Interface operators for fluid-structure interaction algorithms and applications", November 2005 - October 2007
- Principal investigator, Swiss National Science Foundation, Project Nr. 200020-112166 on "Finite element methods for Navier-Stokes equations with free-surface", May 2006 - October 2007
- Principal investigator, Swiss National Science Foundation, Project Nr. 200020-113304 on "Continuous/discontinuous finite element approximation of differential problems with multiple scales in heterogeneous media", October 2006 – September 2008
- Principal investigator, Swiss National Science Foundation, Project Nr. 200020-117587 on "Interface operators and solution algorithms for fluid-structure interaction problems with applications", January 2008 – December 2010
- Co-principal investigator, Synergia, Swiss National Science Foundation, Project Nr. CRSII2-125444/1, "Fluid dynamics and mixing behaviour in orbitally shaken bioreactors for mammalian cell cultivation", April 2009 – March 2012
- Alinghi project for the 33<sup>rd</sup> America's Cup, 2009-2010
- Principal investigator, HP2C High Performance and High Productivity Computing, HPC for Cardiovascular System Symulation, 2010-2012
- Principal investigator, FP7 ICT Project, Grant 224635, VPH2 – Virtual Pathological Heart of the Virtual Physiological Human, 2008-2011

- Principal investigator at the Politecnico di Milano of more than 50 research contracts funded by private companies on a broad variety of problems ranging from oil exploration, optimization of industrial processes, simulation of optical devices, nanomaterials, drug delivery, optimization of yacht and rowing hull performances, etc.
- Modeling and simulation of the human cardiovascular system with application to the diagnosis, treatment and surgical planning of cardiovascular diseases, Swiss-Brazilian Joint Project, September 2010 - August 2012
- Holder of an ERC Advanced Grant on Project "MATHCARD", 2009-2014
- Principal investigator, Swiss National Science Foundation, Project Nr. 200021-122136/1 « Reduced basis methods for the optimization of complex systems» January 2009- December 2011.
- CADMOS - Center for Advanced Modeling Science - cooperation between the University of Geneva, the University of Lausanne and EPFL.
- Principal investigator, Swiss National Science Foundation, Project Nr. 200021-135444 "Numerical simulation of a sailing boat: dynamics and shape optimization" April 2011- March 2013
- Principal investigator, Swiss National Science Foundation, Project Nr. 200021-141034/1 "Model reduction strategies for control, optimization and uncertainty quantification of parametrized systems », May 2012-2015
- Principal investigator, Swiss National Science Foundation, Project Nr. 200021E-140184/1 "Domain decomposition based fluid structure interaction algorithms for highly nonlinear and anisotropic elastic arterial wall models in 3D for the prediction of transmural stress distributions" October 2012- October 2015
- Principal investigator, Swiss National Science Foundation, Project Nr. 200021-147133 "Isogeometric analysis for partial differential equations: surface models and optimization problems in haemodynamics" May 2013- May 2016
- Holder of the ERC PoC (Proof of Concept) Award "From Math to Ward", 2012-2013
- Co-Principal investigator, PASC 2014
- Holder of the ERC PoC (Proof of Concept) Award "Math4AAARisk", 2015-2016
- Holder of the ERC Advanced Grant "iHEART", 2017-2022 (2.351 MEuros)

### **Distinguished (and Named) Lectures**

- Fifth International Conference on Computing Methods in Applied Sciences and Engineering, Versailles (France), December 1981, plenary lecturer
- First Int. Symp. on Domain Decomposition Methods for PDEs, Paris (France), 9 January 1987, plenary lecturer
- 2nd Int. Symp. on Domain Decomposition Methods for PDEs, Los Angeles (California), 15 January 1988, plenary lecturer
- ECMI (European Conference on Mathematics in Industry), Glasgow, August 1988, plenary lecturer
- First European Congress of Mathematics, Paris, 10 July 1992, keynote lecturer
- ICFD, Oxford, 4th Conference on Numerical Methods for Fluid Dynamics, 4 April 1995, plenary lecturer
- 3rd Intern. Conf. on Industr. and Applied Math. (ICIAM), Hamburg, 3-7 July 1995, plenary lecturer
- Carnegie-Mellon University, Pittsburgh (PA), International Conference on Modern Computational and Applied Mathematics, 11-13 April 1996, keynote lecturer

- Université de Grenoble (France), IMAG-INRIA Colloquium, 21 January 1999
- INRIA Monthly Colloquium, INRIA Rocquencourt, France, 20 April, 1999
- Winterthur, Switzerland, 1 September 1999: Conference of the European Society of Education in Engineering, plenary lecturer
- University of Macau, China, 11-14 January 2000, Int. Conf. On Mathematics and its Role in Civilization, plenary lecturer
- University of Magdeburg (Germany), Int.Conf. on Hyperbolic Problems (HYP2000), 27 February - 2 March 2000, plenary lecturer
- University of Goettingen (Germany), Annual GAMM Conference (GAMM2000), 3-7 April 2000, plenary lecturer
- Mathematical Webs Int. Conf., University of Coimbra, Portugal, 18-20 October 2000, plenary lecturer
- Fourth ENUMATH International Conference on European Numerical Mathematics, Ischia, Italy, 23-28 July 2001, plenary lecturer
- Distinguished Series on High Performance Computing, Singapore-MIT Alliance, MIT, November 28, 2001
- Scuola Normale Superiore (Pisa, Italy), Galileian Chair, distinguished lectures, February 2002
- ICM 2002, Beijing, August 2002, invited lecturer (Section 17: Applied Mathematics)
- JSIAM2002, 21 September 2002, Keio University, Japan, plenary lecturer
- A. K. Aziz Lecture 2003, University of Maryland, College Park, MD, 7 March 2003
- 16<sup>th</sup> International Conference on Domain Decomposition Methods, New York University, 12 January 2005, plenary lecturer
- International Mediterranean Congress of Mathematics, Almeria, Spagna, 6-10 June 2005, keynote lecturer
- Karlovitz Lectures 2005, Georgia Institute of Technology, Atlanta, USA, 20-21 October 2005
- ICM2006, International Congress of Mathematicians, Madrid, Spain, August 2006, plenary lecturer  
<http://www.mathunion.org/Videos/ICM2006/muster.php?quarteroni2006>
- Lagrange Lecture 2007, University of Turin, 7 May 2007
- International Euler Symposium, Basel, 31 May 2007, plenary lecturer
- SIAM Conference on Analysis of Partial Differential Equations, Phoenix (AZ), USA, 28 November 2007, plenary lecturer
- IMA, University of Minnesota, Minneapolis, 13 February 2008, Math matters public lecture
- Festival della Matematica, Rome, Auditorium della Musica, Lectio Magistralis, 16 March 2008
- WCCM8-ECCOMAS08, Venice, 30 June 2008, plenary speaker
- Santalo' Lecture 2008, Universidad Complutense de Madrid, 16 October 2008
- Alan Tayer Lecture 2008, University of Oxford, 25 November 2008
- Frontiers Lectures, Texas A&M University, College Station, 1-5 February, 2010
- The XXVth Courant Lecture 2010, 29<sup>th</sup> April 2010
- Colloquium on the 100<sup>th</sup> anniversary of the Real Sociedad Matematica Espanola, La Coruna, Spain, 9<sup>th</sup> May, 2011
- The R.Mitchell lecture 2011, 24<sup>th</sup> Biennial Conference on Numerical Analysis, University of Strathclyde, Glasgow, June 2011
- The Harold J. Gay Lecture, WPI (Worcester Polytechnic Institute), 13 April 2012  
<http://www.wpi.edu/academics/Depts/Math/News/lectureseries.html>

- The Feng Kang Lecture 2013, Chinese Academy of Sciences, Beijing, 7 May 2013  
<http://lsec.cc.ac.cn/fengkangprize/Fkdl.html>
- Colloquia Patavina, Mathematics Department, University of Padova, 25 March 2014

[http://www.math.unipd.it/~conti/colloquia\\_files/20140325\\_AlfioQuarteroni.html](http://www.math.unipd.it/~conti/colloquia_files/20140325_AlfioQuarteroni.html)

- The IMA Lighthill Lecture, BACM 2014, Cardiff University, 28 April 2014  
<http://mathsevents.cf.ac.uk/bamc2014/>
- EMS distinguished speaker 2014, FJIM 2014, Bilbao, June 30 – July 4, 2014  
<http://www.euro-math-soc.eu/node/1810>
- PACM Colloquium, Princeton University, 21 September 2015
- ECCOMAS 2016 plenary lecture, Crete, June 6-10, 2016
- CMBE17, Opening Lecture, Pittsburgh, 10 April 2017  
<http://www.combiomed.net/2017/invited-speakers.htm>
- The Euler Lecture 2017 (Euler-Vorlesung 2017), Potsdam, 19 May 2017  
<http://www.euler-lecture.berlin/>
- Distinguished PDE Lecture Series, Lecturer 2017, Vienna Center for PDEs, Vienna, 6 June 2017  
<http://viennapde.tuwien.ac.at/events/pdelectures.html>
- Colloquium, Institute of Mathematics Universitat de Barcelona, 18 October 2017
- Colloquium, Department of Mathematics, University of Maryland, 2 February 2018
- The Keith Stewartson Memorial Lecture, St Andrews, Scotland, 26 March 2018
- The Marker Lectures 2018, Penn State University, State College, October 2018

<https://math.psu.edu/sites/default/files/section/MarkerBrochure%20AQ.pdf>

- The Pedro Nunes Lectures 2018, Lisbon, Coimbra and Porto, November 2018  
<http://www.cim.pt/agenda/event/196>

### **Organization of International Conferences and Workshops**

- First International Conference on Spectral and High Order Methods (ICOSAHOM), Como, Villa Olmo, June 1989 (co-chairman)
- Sixth International Conference on Domain Decomposition Methods, Como, Villa Olmo, (Italy) June 1992 (chairman)
- Workshop on Computational Fluid Dynamics, Scuola Normale Superiore, Pisa, (Italy) October 1993 (chairman)
- Workshop on Control Theory for Industrial applications, Scuola Normale Superiore, Pisa, (Italy) January 1996 (co-chairman)
- ESF European Research Conference on Mathematical and Numerical Models for the Simulation of Turbulent and Reactive Flows, Strasbourg, France, February 1996 (chairman)
- School on Numerical Approximation of Partial Differential Equations, International Center for Theoretical Physics, Trieste, (Italy) September 1996 (director)
- International Conference on Advanced Numerical Methods for Partial Differential Equations, International Center for Theoretical Physics, Trieste, (Italy) September 1996 (chairman)

- Workshop on "Images: Treatment, Analysis, Industrial and Medical Applications", Scuola Normale Superiore, Pisa (Italy), 11-14 January, 1997 (co-director with Prof. P. L. Lions)
- C.I.M.E. Course on Advanced Numerical Approximation of Discontinuous Solutions of Conservation Equations, Cetraro, (Italy) June 1997 (director)
- Workshop on Parallel Computing in Applied Fluid Mechanics, Scuola Normale Superiore, Pisa, (Italy) September 1997 (co-director with Prof. T. Tezduyar)
- First AMIF International Conference, San Feliu de Guixol (Spain), 30 September - 3 October 1998 (co-chairman with P. L. Lions)
- Workshop on Advances on Stabilized Methods for Partial Differential Equations with Emphasis on Fluid Mechanics, Scuola Normale Superiore, Pisa, (Italy) April 1999 (with Prof. T. J. R. Hughes)
- Summer School on Computational Fluid Dynamics, Coimbra, Portugal, July 1999
- Second AMIF International Conference, Il Ciocco, Tuscany (Italy), 12-14 October 2000 (co-chairman with P. L. Lions)
- Workshop on Modelling and Simulation of Viscoelastic and Non-Newtonian Fluids, Scuola Normale Superiore, Pisa, (Italy) October 2000 (with Prof. A. Fasano)
- Workshop on Cardiovascular System: from Mathematical Models to Clinical Applications, MOX, Politecnico di Milano, 6-8 March 2002
- Summer School on Mathematical Modelling of the Cardiovascular System, EPFL, Lausanne, August 25-30, 2003
- 1st International Symposium on Modeling of Physiological Flows (MPF2003), EPFL, Lausanne, 1-3 September 2003
- Workshop (Progetto Intergruppo INDAM 2004): 'Integrazione di sistemi complessi in biomedicina: modelli, simulazione, rappresentazioni', Bergamo, Italy, 22-24 November 2004
- 2nd International Symposium on Modeling of Physiological Flows (MPF2005), Sesimbra, Portugal, 31 March-2 April, 2005
- Third International Symposium on Modeling of Physiological Flows (MPF2006), Bergamo, Italy, 25-27 September 2006
- MATHKNOW08, Mathematics and Knowledge, Politecnico di Milano, Milan, 22-24 May 2008, co-chair
- EMS-SMI Summer School on Mathematical and Numerical Models of the Cardiovascular System, Cortona, Italy, 18-30 August 2008
- Advances in Mathematical Analysis, Workshop, EPFL (Lausanne), 26-27 March 2009
- Minisymposium on Coupled problems : analysis, simulation, applications, SIAM EDP Conference, Miami, FL, 6-10 December 2009
- CECAM Workshop on « Trends in Computational Hemodynamics », Lausanne, Switzerland, 10-12 May 2010
- 4th Int. Symposium on Modelling of Physiological Flows (MPF 2010), Chia Laguna, Sardinia, 2-5 June 2010
- Workshop on Computational Mathematics in Science and Engineering, CADMOS, EPFL, Lausanne, 1-2 September 2010
- Rocca MIT-PoliMi Workshop on Reduction Strategies for the Simulation of Complex Problems, Milan, 19-21 January 2011 (co-organizer : Anthony T Patera)

- IMA Thematic Year on Simulating Our Complex World: Modeling, Computation and Analysis, September 1, 2010 - June 30, 2011 – Co-organizer
- IMA Workshop on Computing in Image Processing, Computer Graphics, Virtual Surgery, and Sports, 5-11 March 2011, Co-organizer.
- ACMAC (Archimedes Center for Model, Analysis and Computation), Modern Techniques in the Numerical Solution of Partial Differential Equations Workshop, September 19-23, 2011, Heraklion, Greece, Organizing Committee
- RISM 3, Riemann International School of Mathematics on Multiphysics and Multiphase Flows, Verbania, 25-30 September 2011, Director
- International Conference on Scientific Computing, SC 2011, S.Margherita di Pula, Sardinia, Italy, October 10-14, 2011, Co-organizer (with Carsten Carstensen) of the minisymposium on Numerical Approximation of PDEs
- Workshop on Free Surface Flows: Numerical Methodologies and Application to Naval Architecture, SISSA, Trieste, 23-24 February 2012, Organizing and Scientific Committee
- CECAM Workshop on Reduced Basis, POD and Reduced Order Methods for model and computational reduction: 14-16 May, 2012, Co-organizer (with G.Rozza)
- SIAM Annual Meeting 2012, Minneapolis, MN, 9-13 July 2012, member of the Organizing Committee
- 5<sup>th</sup> International Symposium on Modelling of Physiological Flows (MPF 2013), Chia Laguna, Sardinia, 11-15 June 2013
- RISM (Riemann International School of Mathematics) 2019, Varese, Italy, 22-24 July 2019

### **Colloquia, Seminars and Other Invited Talks**

#### **1977**

- International Congress of Mathematicians, Helsinki University, August 1977

#### **1978**

- Institut für Angewandte Mathematik, Bonn University, October 1978

#### **1979**

- Congresso dell'Unione Matematica Italiana, University of Palermo, September 1979

#### **1980**

- Laboratoire d'Analyse Numérique, University of Paris VI: February 1980 and March 1980
- Oberwolfach Meeting on "Finite Elements", Oberwolfach (Germany), August 1980

#### **1981**

- Politecnico di Torino (Italy), January 1981
- Department of Mathematics of the University of Tel Aviv (Israel), May 1981
- Ecole Polytechnique Fédérale of Lausanne (Switzerland), May 1981

#### **1982**

- Institute for Computer Applications in Science and Engineering (ICASE) (NASA Langley Research Center, Hampton, Virginia), May 1982

- Workshop on "Spectral Methods for Partial Differential Equations", Hampton (Virginia), August 1982
- Euromech 159 on "Spectral Methods in Computational Fluid Dynamics", Nice (France), September 1982

### 1983

- Laboratoire d'Analyse Numérique, University of Paris VI: June 1983
- C.I.M.E. Course on Numerical Methods in Fluid Dynamics, Como (Italy), July 1983
- French-Soviet-Italian Symposium on Computational Mathematics and Applications INRIA-Novosibirsk
- Pavia Meeting, Rocquencourt (France), December 1983

### 1984

- First German-Italian Symposium on "Applications of Mathematics to Technology", Rome, March 1984
- Institute for Computer Applications in Science and Engineering (ICASE) (NASA Langley Research Center, Hampton, Virginia), April 1984
- I.M.A., Institute of Mathematics and Applications, Minneapolis (Minnesota), November 1984
- Department of Mathematics of the University of Maryland, College Park (Maryland), November 1984
- Department of Mathematics, University of Chicago, November 1984
- Institute for Computer Applications in Science and Engineering (ICASE) (NASA Langley Research Center, Hampton, Virginia), December 1984

### 1985

- Oberwolfach meeting on "Multivariate Approximation Theory", January 1985
- School of Mathematics, University of Minnesota, Minneapolis, February 1985
- Ecole Polytechnique, Centre de Mathématiques Appliquées, Palaiseau (France), October 1985
- Laboratoire d'Analyse Numérique, University of Paris VI: October 1985
- Department of Mathematics, University of Rennes (France), December 1985
- Seventh International Conference on Computing Methods in Applied Sciences and Engineering, Versailles (France), December 1985

### 1986

- Department of Mathematics, Università La Sapienza, Rome (Italy), January 1986
- INRIA School on "Spectral methods for nonlinear problems", Rocquencourt (France), January 1986
- I.M.A., Institute of Mathematics and Applications, Minneapolis (Minnesota), September 1986

### 1987

- INRIA Sophia Antipolis, France, 27 February 1987
- INRIA "School on Spectral Methods, for nonlinear problems 2", Rocquencourt (France), 24 March 1987
- SASIAM, Tecnopolis, Bari (Italy), 7 May 1987
- Istituto per le Applicazioni del Calcolo-C.N.R., Rome, 9 May 1987
- Politecnico of Milan (Italy), 11 May 1987
- Scuola Normale Superiore of Pisa (Italy), 19 May 1987
- Akademia Nauk., Moscow, 22-26 June 1987

- 2nd Int. Symp. on Vector and Parallel Computers, Accademia Nazionale dei Lincei, Rome, 22 September 1987

#### 1988

- M.I.T., Cambridge (Massachusetts), 12 January 1988
- ICASE, NASA Langley Research Center, Hampton (Virginia), 19 January 1988
- SASIAM, Tecnopolis, Bari (Italy): Course on Computational Fluid Dynamics, 14-18 March 1988
- Politecnico of Milan (Italy), 25 March 1988
- Third German-Italian Symposium on "Applications of Mathematics to Technology", Siena, June 1988
- ICASE, NASA Langley Research Center, Hampton (Virginia), 7 September 1988
- International Meeting on Parallel Computing: Methods, Algorithms, Applications, Verona (Italy), 29 September 1988
- Department of Mathematics, University of Padova (Italy), 7 December 1988

#### 1989

- Summer School on Domain Decompositions, Lambrecht, Pfalz Akademie (W. Germany), 1-5 May 1989 (cospeaker: prof. A.T.Patera, M.I.T., Cambridge)
- IBM Europe Institute on "Numerical Software", Garmisch (W. Germany), 1-5 August 1989
- International Conference on "Numerical Methods for Scientific Computing", Rolf Nevanlinna Institute, Helsinki, 20-25 August 1989
- Summer School on "Efficient Methods for Partial Differential Equations", University of Jyväskylä, Finland, 28 August - 1st September 1989 (as unique speaker)
- Venice, Italy: 1-4 October 1989: Int. Symp. on Applied and Industrial Mathematics
- Pavia, Italy: October 5, 1989, Fourth Italian-French-Soviet Symposium on Computational Mathematics and Applications

#### 1990

- Minnesota Supercomputer Institute, Minneapolis, March 16, 1990
- Department of Computer Science, Purdue University, Lafayette, March 17, 1990
- 8th Int. Conference on Water Resources, Venice, 11-15 June 1990
- SERC Summer School on Numerical Analysis, Lancaster (U.K.), 16-20 July 1990 (main speaker)
- 2nd WCCM, Stuttgart (West Germany), 27-31 August, 1990
- Army High Performance Computing Research Center, Minneapolis, 13 November 1990

#### 1991

- Minnesota Supercomputer Institute, Minneapolis, 6 February 1991
- California Institute of Technology, Pasadena, 25 February 1991
- University of California at Los Angeles, 26 February 1991
- 5th Int. Conf. on Domain Decomposition Methods, Norfolk, VA, 6 May 1991
- University of Maryland, College Park, 9 May 1991
- 1st U.S. Conference on Computational Mechanics, Chicago, 22 July 1991
- University of Hong Kong, 16 August 1991
- Hangzhou (China), International Conference on Scientific Computing, 21 August 1991



- Shanghai University of Science and Technology, 26 August 1991
- Computer Centre of Academia Sinica, Beijing, 29 August 1991
- Catania, XIV U.M.I. Symposium, keynote lecture, 20 September 1991

#### 1992

- Montpellier, 2nd ICOSAHOM, 22-26 June 1992, (keynote lecturer)
- Cagliari, International Conference on Numeric Intensive Computation in Physics and Chemistry, September 1992

#### 1993

- Rome, International Conference in Numerical Analysis for Partial Differential Equations, January 1993
- Sophia Antipolis, (France), Numerical Tools in Scientific Computation with Applications to Flow, Turbulence and Combustion, 17-19 March 1993
- Minneapolis, IMA Workshop on Adaptive Methods, 19-23 July 1993
- Barcelona, Tutorial on Domain Decomposition Methods, 16-18 September 1993, (keynote lecturer)
- Heidelberg, Workshop on Mathematical and Numerical Methods for Navier-Stokes Equations, 25-28 October 1993

#### 1994

- Von Karman Institute, Bruxelles, 10 March 1994. - Penn-State University, State College, PA, 22 April 1994
- Minnesota Supercomputer Institute, Minneapolis, (U.S.A), Workshop on Domain Based Parallelism, 24 April 1994
- Stuttgart, 2nd ECCOMASS Conference, 5-8 September, 1994 (keynote lecturer)
- Scuola Normale Superiore, Pisa, 8 November 1994
- Institut Henry Poincaré, Paris, 21 November 1994

#### 1995

- University of Stuttgart, 27 January 1995
- San Antonio, TX, SIAM Geosciences Meeting, 10 February 1995
- ISMES, Bergamo (Italy), Quality of Scientific and Technical Computing, 11 April 1995
- Roma, Università "La Sapienza", 26 May 1995
- NATO-ASI School on Hypersonic Flows, Maratea, 27-31 May 1995 (keynote lecturer).
- ICIAM, Hamburg, July 1995, Plenary Speaker
- IMACS, International Conference on "Three Dimensional Complex Flows", EPFL, Lausanne, 13-15 September 1995 (keynote lecturer)
- Tunis, International Conference on "Numerical Modeling of Oil Reservoirs", 20-21 September 1995
- Pavia, French - Italian - Russian Symposium, October 13, 1995
- Venice, FEMIF 95, 19 October 1995 (keynote lecturer)
- Montreal, Workshop on Numerical Methods in Fluid Mechanics, 11-16 November 1995, (main lecturer)
- M.I.T., Cambridge (Massachusetts), Dept. of Mech. Eng., 17 November 1995

#### 1996

- University of Pisa, Dept. of Math., 11 January 1996
- ETH (Polytechnic of Zurich), Parallel CFD Days, 13 March 1996
- University of Maryland, College Park, Dept. of Math., 9 April 1996

- Parallel CFD Conference, Capri, 19-23 May, 1996 (keynote lecturer)
- SIMAI-GAMM Conference, Pavia, 29 May 1996 (keynote lecturer)
- International Linear Algebra Year Conference, CERFACS, Toulouse, 11-14 June, 1996
- International Conference in Theoretical and Numerical Fluid Mechanics, Vancouver, 29 July - 2 August, 1996
- AHPARC, University of Minnesota, 9 August, 1996
- School of Mathematics, University of Minnesota, Minneapolis, 12 August 1996
- Eccomas, Paris, 9-13 September 1996, Organizer of a minisymposium
- First Italian-Latin American Conference on Computational Mechanics, Padova, Italy, 26 September 1996 (keynote lecturer)
- Polytechnic of Turin, 14 October 1996
- Annual Conference on Scientific Research, Accademia Nazionale dei Lincei, Rome, 22 October 1996

### 1997

- CIRIC seminar, Politecnico di Milano, 28 January, 1997
- International Conference on Mathematical and Numerical Aspects of Fluid Mechanics, Lisbon, 27 February - 2 March, 1997
- Scientific Computing for the 21st Century, Tours, 6-7 May, Conference in honor of R.Glowinski
- International Conference on Theoretical and Computational Aspects of Navier-Stokes Equations, Varenna (Italy), 4 June 1997
- International Conference on Numerical Modeling in Continuum Mechanics, , Prague, 8-11 September 1997, (keynote lecturer)
- Workshop on Parallel Computing in Applied Fluid Mechanics, Scuola Normale Superiore, Pisa, (Italy) september 97 (lecturer)
- International Conference on Stability of Waves , Monopoli (Italy), october 97 (lecturer)
- University of Pisa, 14 October 1997
- Lombard Academy of Sciences, 23 October 1997
- Diderot Mathematical Forum, Venezia 18-19 December 1997, (lecturer)

### 1998

- Brown University, 21 January 1998
- Courant Institute, New York University, Conference in honour of Olof Widlund, 24 January 1998
- University of Kaiserslautern, Germany, 10-12 February 1998: compact course on Domain Decomposition Methods in Fluid Dynamics (10 hours)
- ITWM-Kolloquium, ITWM, University of Kaiserslautern, Germany, 13 February 1998
- Oberwolfach, Domain Decomposition and Multifield Problems, 27-30 April 1998
- Trieste (Italy), International Workshop on Nonlinear Conservation Laws, 14 May 1998
- Marseille, CaNum98, 21 May 1998
- Paris, Conference in honour of Jacques-Louis Lions, 27 May 1998
- University of Greenwich, 11th Int. Conf. on Domain Decomposition Methods, 23 July 1998
- NATO-ASI School on Adaptive Methods, Antalia, Turkey, 10-20 August 1998 (4 lectures)

- Centro Volta, Como (Italy), International School on Turbulence, 7 September 1998
- Annual Meeting of the Swiss Mathematical Society, Airolo, 23 September 1998
- ETH Zurich, 50th anniversary of SAM (Seminar of Applied Mathematics), 18-22 November 1998

#### 1999

- Scuola Normale Superiore, Pisa (Italy), Workshop on Stabilized Methods, 19 April 1999
- Monte Verità, Ascona (Switzerland), Workshop "Computational Sciences and Engineering", 4 May 1999
- Coimbra (Lisbon), 12-17 July, 1999, Summer School on Computational Fluid Dynamics, keynote lecturer (5 lectures)
- University of Boulder, Colorado, 4-6 August 1999: U.S. National Conference on Computational Mechanics, invited talk
- Department of Mathematics, University of Texas at Austin, 10 August 1999
- University of Heidelberg, 6 September 1999, EMS-IWR Summer School, keynote lecturer
- University of Marseille, 13 September 1999, Conference on the State of the Art in CFD, keynote lecturer
- University of Ferrara, Italy, 15 September 1999, Int. Conf. on Navier-Stokes Equations, keynote lecturer

#### 2000

- Intern. Conf. On Navier-Stokes Equations (Conference in honour of John Heywood), Capo-Miseno (Italy), 28-31 May 2000, plenary lecturer
- University of Aachen, 30 June 2000
- IMACS2000 International Conference, Lausanne, 21-25 September 2000, invited lecturer at AMIF Minisymposium
- ECCOMAS2000 International Conference, Barcelona, 11-14 October 2000, keynote lecturer
- Int.Symp. on Mathematical Modeling and Numerical Simulation in Continuum Mechanics, Yamaguchi University, Japan, Sept.29 - Oct.3, 2000, plenary lecturer

#### 2001

- Instructional Conference on Nonlinear Partial Differential Equations, Heriot-Watt University, Edinburgh, 12 January 2001, invited lecturer
- International Workshop on « Simulation in Hemodynamics », University of Chicago, 21-23 March, 2001, invited lecturer
- International Conference on « Mathematics and Culture 2001 », Venice, 30-31 March 2001, invited lecturer
- International Conference on Contemporary Challenges in Applied Fluid Mechanics, Cape Miseno, Italy, June 1-5, 2001, invited lecturer
- 19th Biennial Conference on Numerical Analysis, University of Dundee, 26-29 June 2001, invited lecturer
- Symposium on Haemodynamics, ISB Congress 2001, Zurich, 8-12 July, 2001, invited lecturer
- Equadiff 10, Prague, 27-31 August, 2001, invited lecturer
- First SIAM/EMS Conference, Berlin, September 2-6, 2001, plenary lecturer
- Swiss-Japanese Seminar on « New Directions in Cellular and Tissues Biomechanics », 24-28 September, 2001, invited lecturer

- IPERCT01, National Conference on Hyperbolic Problems, Catania, Italy, 23 November 2001, invited lecturer
- Université de Paris VI, Seminaire d'Analyse Numérique, December 7, 2001

### 2002

- Max-Planck Institute for Mathematical Sciences, Leipzig, Germany, 18 January 2002
- International Workshop on Cardiovascular System: from Mathematical Modelling to Clinical Applications, Milan, March 8, 2002, invited lecturer
- Vismath 2002, Berlin, May 25, 2002, plenary lecturer
- University of Trento, Faculty of Engineering, 6 June 2002
- FBP2002 (International Conference on Free Boundary Problems), Trento, June 7, 2002, invited lecturer
- EMSTB, 5th International Conference on Mathematical Modeling and Computing in Biology and Medicine, University of Milan, 2-6 July, 2002
- WCCM5, Wien, July 8, 2002, minisymposium on Stabilized and Multiscale Finite Elements
- MSRI Summer School on Blood Flow, 29 July - 2 August, 2002, keynote lecturer
- International Conference on Nonlinear Partial Differential Equations, City University of Hong Kong, 29 July - 2 August, 2002, invited lecturer
- Kyushu University, Fukuoka (Japan), 17 September 2002
- The University of Electro-Communication, Tokyo, 24 September 2002
- University of Linz, Kepler Colloquium, November 5, 2002
- University of Vienna, Department of Mathematics, Colloquium, November 6, 2002
- Annual Ercoftac meeting, LEC (Leonard Euler Center), EPFL, Lausanne, 8 November 2002 (keynote speaker)
- Lombard Academy of Sciences, Milan, November 15, 2002
- Technical University of Berlin, International Conference on « Mathematics for Key Technologies », invited speaker, November 21, 2002
- Cogne, Italy, PRISTEM Annual Meeting, invited speaker, November 23, 2002
- Picone Lecture, University of Rome La Sapienza, December 6, 2002

### 2003

- Newton Institute, University of Cambridge, UK, invited speaker, January 24, 2003
- Mathematics Colloquium, University of Maryland, College Park, MD, 6 March 2003
- CHUV (University Hospital), Lausanne, European Meeting on Congenital Heart Diseases, invited lecture, March 29, 2003
- CERN Colloquium, Geneva, Switzerland, June 5, 2003
- University of Pavia, Conference in honour of Prof. E. Magenes, invited lecture, June 19, 2003
- University of Madeira, Portugal, Int. Conf. On Nonlinear Partial Differential Equations, invited lecture, June 27, 2003
- ICIAM2003, Sydney, invited lecture in a minisymposium, July 10, 2003
- HERCMA 2003, Athens, September 2003, plenary lecture.
- WIAS, Berlin, September 2003, lecture series
- University of Trieste, 10 October 2003
- Third Italo-Chinese International Conference, Grado, Italy, November 17, 2003

- Journee Calcul Scientifique et Applications Technologiques, Marcel Dassault Aviation, St. Cloud, Paris, November 27, 2003, invited lecture
- University of Crema, December 1<sup>st</sup>, 2003, invited seminar
- Museum of Science and Technology "Leonardo Da Vinci", Milan, December 9, 2003
- University of Florence, Italy, December 15, 2003

#### 2004

- WONAPDE 2004, Concepcion, Chile, January 13, 2004, Plenary Lecturer
- University of Bologna, Italy, February, 18, 2004, invited seminar
- Istituto Lombardo di Scienze e Lettere, Milan, February, 19, 2004, Opening Conference Cycle
- Universidad autonoma de Madrid, Spain, March, 1-5, 2004, lecture series
- Rice University, Houston, USA, April 7-9, 2004, Conference: Advances in Computational Mechanics, Invited Plenary Lecturer
- Lugano and Locarno, Ticino, Switerland, May 3, 2004, Lecturer
- DD60 Science Festival, Berlin, Germany, May 7, 2004, Plenary Lecturer
- Catholic University Brescia, Italy, May 20, 2004, Invited Lecturer
- EPFL, Lausanne, High Tech Cars' day, May 27, 2004, Invited Lecturer
- ASM 2004, Applied Simulation and Modelling, IASTED, Rhodes, Greece, June 28-30, 2004, Invited Plenary Lecturer
- ICCFD 3, Utias, Toronto, Canada, July 12-16, 2004, Invited Plenary Lecturer
- ECCOMAS 2004, Jyvaskyla, Finland, July 24-28, 2004, Invited Plenary Lecturer
- CEMRACS 04, Marseille, France, July 26-30, 2004, Summer School Lecturer
- Nuova Scienza, Nuova Industria, Le sfide per la nuova Europa, Accademia dei Lincei-Fondazione Edison, Roma, Italy, 13-14 october 2004, Lecturer
- Istituto Lombardo di Scienze e Lettere, Omaggio a Eugenio Beltrami, 15 October 2004, Milan
- XXIV Congresso UMI-CIM, Matematica, Scuola, Societa', 21-22 October 2004, Catania, Italy, Plenary lecturer
- Matematica e Cultura, University of Bologna, 23 October 2004, Plenary lecturer
- International Conference on the Research Trend for PDE Modeling and Computation, Brown University, 7-8 November 2004, Providence, RI (USA)
- University of Modena, Italy, 6 December 2004, invited seminar

#### 2005

- University of Naples, Italy, 3 February 2005, invited seminar
- "Alla Corte di Federico II", Naples, Italy, 3 February 2005, Colloquium
- University of Bari, Italy, two invited seminars, 11-12 March 2005
- Matematica e Cultura 2005, Venice, Italy, plenary talk, 18 March 2005
- Conference in Locarno on America's Cup with J.A. Manson, 11 April 2005
- Conference in honour of Carlo Banfi, Catholic University of Brescia, plenary talk, 22 April 2005
- Fourth International Workshop on Scientific Computing and its Applications, Shanghai Jiaotong University, Shanghai, China, June 20-23, 2005
- Mathematical Models in Life Sciences: Theory and Simulation, Summer School, Dobbiaco, Italy, 1-5 July 2005, Lecturer
- System Modeling and Optimization, IFIP TC7 Conference, Politecnico di Torino, plenary talk, 18-22 July 2005

- International Conference on Advances in Numerical Mathematics, 60<sup>th</sup> Birthday of Y. Kuznetsov, Moscow, Russia, 16-17 September 2005, Invited speaker
- Computational Life Sciences Workshop, Innsbruck, Austria, 12-15 October 2005, Invited speaker
- Istituto Lombardo Scienze e Lettere, Milan, Italy, November 2005, contributed lecturer

### 2006

- FluBio, University of Genova, Italy, 7 March 2006, Plenary Lecturer
- University of Genova, Italy, 8 March 2006, Invited Seminar
- Museo Mineralogico Campano, Vico Equense, Italy, 18 March 2006
- Matematica e Cultura 2006, Ca'Foscari University, Venice, 24-26 March 2006, Invited Lecturer
- ECCOMAS summer school on fluid structure interaction, Ibiza, Spain, 3-7 May 2006, Lecturer
- Scientiae Munus, Parma, Italy, 8 May 2006, invited Seminar
- SIMAI 2006, Italian Society for Industrial Applied Mathematics, Baia Samuele (Ragusa), Italy, 22-26 May 2006, Invited Speaker in the Session "New Trends in Scientific Computing"
- Scientific Conference Series, University of Perugia, 5 June 2006, Invited Lecturer
- MAFELAP, Mathematics of Finite Element and Applications, Brunel University, UK, 13-16 June 2006, Invited Speaker
- Conference "Comportement asymptotique en mécanique des fluides", Bernoulli Centre, EPFL, Lausanne, 24 July 2006, Invited Speaker
- ICM 2006 (International Congress of Mathematicians), Madrid, August 2006, plenary lecturer
- International Conference on Multifields Problems, Stuttgart, 4-6 October, plenary talk
- Inauguration of Ulm Center of Scientific Computing, Ulm, 23 November 2006, invited speaker
- Cluster Symposium on Numerical Methods for Model Order Reduction, Eindhoven University of Technology, 6 December 2006, invited lecture
- Philips NXP, Eindhoven, 8 December 2006, invited seminar
- Cluster Symposium on Numerical Methods for Medical Applications, Eindhoven University of Technology, 13 December 2006, invited lecture

### 2007

- University of Pisa, 11 January 2007, colloquium
- University of Cassino, 5 February 2007, invited lecture
- Basel Computational Biology Conference, Basel, 13 March 2007, invited lecture
- Workshop on Geometric Tomography and Applications, Politecnico of Milano, 30 March 2007, invited lecture
- Lagrange Lecture, University of Turin, 7 May 2007
- International Euler Symposium, Basel, 31 May 2007, plenary lecture
- International Conference on Recent Developments of Numerical Schemes for Flow Problems, Kyushu University, Fukuoka, 27 June 2007, plenary lecture
- ICIAM 2007, Zurich, 19 July 2007, minisymposium on computational medicine, invited lecture
- International Conference of Theoretical and Numerical Fluid Mechanics III, Vancouver, 16 August 2007, plenary lecture

- Corso di Orientamento della Scuola Normale Superiore di Pisa, Rovereto, Italy, 2 September 2007, invited lecture
- Conference in honour of Jacques Rappaz on the occasion of his 60th birthday, 6 September 2007, Lausanne, invited lecture
- Workshop on Blood Modelling, Aachen, Germany, 21 September 2007, invited lecture
- Festa della matematica, Castel San Pietro, Bologna, 6 October 2007, invited lecture
- Ispettorato PI Milano, 9 October 2007, invited lecture
- 2<sup>nd</sup> GACM Colloquium on Computational Mechanics, Munich, 12 October 2007, plenary lecture
- Politecnico di Milano, Colloquia of the Doctoral School, 15 October 2007
- Galileian year, Piccolo Teatro, Milano, 24 October 2007, invited lecture
- Tecnologie CAE per l'industria, priorità e sfide, Stezzano, Italy, 25 October 2007, keynote lecture
- Genova Science Festival, Italy, 27 October 2007, invited lecture
- Conference on Blood Diseases, Lyon, 8 November 2007, invited lecture
- Year of Computational Sciences, Universidad Autonoma de Barcelona, 12 November 2007, public lecture
- Confindustria-Orientagiovani, Fabriano, Italy, 16 November 2007, keynote lecture
- Holst memorial, TU Eindhoven, 22 November 2007, plenary lecture
- SIAM Conference on Analysis of Partial Differential Equations, Phoenix (AZ), USA, 28 November 2007, plenary lecture

## 2008

- DD18, 18<sup>th</sup> International Conference on Domain Decomposition Methods, Hebrew University of Jerusalem, 16 January 2008, invited
- University of Florence, Lincei per la Scuola, public lecture, 2 February 2008
- IMA, University of Minnesota, Minneapolis, 13 February 2008, Math matters public lecture
- University of Houston, Department of Mathematics, Colloquium, 15 February 2008
- Rose School on Engineering Seismology, University of Pavia, 11 March 2008, 4 lectures
- Festival della Matematica, Rome, Auditorium della Musica, Lectio Magistralis, 16 March 2008
- Workshop on Present and Future Trends in Computational Modeling of the Cardiovascular System, Rio de Janeiro, 6-7 May 2008, 3 lectures
- CEFRIEL, Milan, invited seminar, 16 May 2008
- International Workshop on Mathematics and Water, Zaragoza, Spain, 19-21 May 2008, invited lecture
- International Conference on Mathematics and Knowledge, Politecnico di Milano, Milan, 22-24 May 2008, invited lecture
- CSFI08, National Conference on Computational Physics, invited lecture, 30 May 2008
- Politecnico di Milano, Mathematical Culture Lecture Series, invited lecture, 3 June 2008
- Oxford Centre for Nonlinear PDE, invited lecture, Oxford, 5 June 2008
- WCCM8-Eccomas 2008, plenary lecture, Venice, 30 June - 4 July 2008

- WCCM8-Eccomas 2008, Symposium in honor of Prof. G.Maier, invited talk, Venice, 30 June - 4 July 2008
- ESOF 2008, Barcelona, invited talk
- Pavia, Festival dei Saperi, open lecture, 6 september, 2008
- Scuola Normale Superiore di Pisa, Corso di Orientamento, San Miniato, 7 September 2008
- CASPUR workshop on Parallel Computing, Grottaferrata, 9 September 2008, four lectures
- SIAM-SIMAI Conference, Rome, 16 September 2008, plenary lecturer.
- Santalo' Lecture, Universidad Complutense de Madrid, 16 October 2008
- Faculty of Mathematical Science, Universidad Complutense de Madrid, 17 October 2008, invited seminar
- International Conference on New Trends in Industrial and Applied Mathematics, University of Catania, 10-13 November 2008, invited lecture
- CESAER (19<sup>th</sup> Conference of European Schools for Advanced Engineering Education and Research), invited speaker, Politecnico di Milano, 13 November 2008
- International Workshop on Advanced Numerical Methods in Seismology, University of Brescia, 17 November 2008, invited lecture
- Centre for Mathematical Sciences, University of Cambridge, DAMTP/CMS seminar, 21 November 2008
- University of Oxford, "Alan Tayler Lecture 2008", 24 November 2008

#### 2009

- Warwick Mathematics Institute, EPSRC Symposium Workshop on New Directions in Computational PDEs, 15 January 2009, invited lecture
- Warwick Mathematics Institute, Department Colloquium, 16 January 2009
- University of Trento, Italy, Department of Mathematics Colloquium, 30 January 2009
- Lombard Academy of Science, invited lecture, 5 February 2009
- Vietnamese Academy of Science, Int Conf HPSC 2009, 3 March 2009, plenary speaker
- University of Roma "Tor Vergata", Department of Mathematics Colloquium, 16 March 2009
- ENIT (Ecole Nationale d'Ingénieurs de Tunis), Colloquium LAMSIN-ENIT, 24 April 2009
- Ettore Majorana Centre for Scientific Culture, Erice, International Conference on "Variational Analysis and Applications", 11 May 2009, invited lecture
- ECM2009 International Conference, Hong Kong Polytechnic University, 29 May 2009, plenary speaker
- Eccomas Conference on Coupled Problems, Ischia Island, 10 June 2009
- Technical University of Munich, International Conference for the 50<sup>th</sup> anniversary of Numerische Mathematik, invited lecture
- CIME-EMS Summer School in Applied Mathematics. Multiscale and Adaptivity: Modeling, Numerics and Applications, Cetraro 7-11 July 2009, invited lecturer (6 Lectures)
- ICCB 2009 (IV International Conference on Computational Bioengineering), Bertinoro, Italy, 16-18 September 2009, keynote lecture
- 17<sup>th</sup> OMG Congress – Annual DMV Meeting (joint conference between Austrian and German Mathematical Societies), Graz, Austria, 20-25 September 2009, plenary lecture



- Politecnico di Milano, Progetto Rocca, 28 September 2009
- 5<sup>th</sup> China-Italy Conference on Computational and Applied Mathematics, INDAM, Rome, invited lecture, 9 November 2009
- Scuola Superiore di Catania, University of Catania, plenary lecture, 21 November 2009
- Int. Conf. on Advances on Scientific Computing, Brown University, Providence, RI, invited lecture, 6 December 2009

### 2010

- SISSA, Trieste, Director's Colloquium, 7 January 2010
- Centro Tecnico Sportivo della Confederazione Svizzera, Tenero, Switzerland, public conference, 18 January 2010
- ICES Colloquium, University of Texas at Austin, 2 February 2010
- Frontiers Lectures, Texas A&M University, College Station, 1-5 February, 2010
- HAFS, High Order Flow Simulations, Lausanne, 15-16 February 2010, invited speaker
- International Colloquium on "Perspectives in Fundamental Research". Tata Institute of Fundamental Research, Mumbai, India, 2-6 March 2010, plenary speaker
- IAMCS workshop on Complex Fluid Dynamics, KAUST, Saudi Arabia, 22-25 March 2010, invited speaker
- ETH/UZH Kolloquium in Mathematics, University of Zurich, 27 April 2010
- The XXVth Courant Lectures 2010, Courant Institute, NYU, 29-30 April 2010
- CISM Course on Computational Fluid Structure Interaction, 6 Lectures, 6-7 September 2010, CISM, Udine, Italy
- Workshop on Variational Analysis and Aerospace Engineering, invited speaker, Ettore Majorana Center for Scientific Culture, Erice, Italy, 10 September 2010
- ICNAAM 2010, Rhodos, Crete, 19-25 September 2010, plenary speaker
- Symposium of Applied Mathematics, Lothar Collatz 100<sup>th</sup> Birthday, University of Hamburg, 7-8 October 2010, plenary speaker
- Colloquium, Mathematics Department, University of L'Aquila, 26 October 2010
- OxPDE Workshop on Partial Differential Equations, Oxford, 12 November 2010
- MIT Computational Engineering Seminar, MIT, Cambridge, 9 December 2010

### 2011

- Africomp, Cape-Town, 7 January 2011, plenary speaker
- Georgia Scientific Computing Seminar, keynote speaker, Emory University, 12 February 2011
- SIAM Conference on Computational Science and Engineering, Reno, Nevada, February 28 – March 4, 2011, plenary speaker
- SIAM Conference on Computational Science and Engineering, Reno, Nevada, February 28 – March 4, 2011, minisymposium on reduced order models for complex problems, invited speaker
- IMA Workshop on Computing in Image Processing, Computer Graphics, Virtual Surgery, and Sports, 5- 11 March, 2011, plenary speaker.
- TED Talk, Trieste, April 8, 2011 <http://www.ted.com/talks>
- Colloquium on the 100<sup>th</sup> anniversary of the Real Sociedad Matematica Espanola, La Coruna, Spain, 9<sup>th</sup> May, 2011
- Workshop on Fast Solution of Partial Differential Equations, Oberwolfach, 24 May 2011, invited speaker

- Jacques Morgenstern Colloquium, INRIA Sophia-Antipolis, 9 June 2011  
<http://www-sop.inria.fr/colloquium/intervenant.php?nom=Quarteroni&prenom=Alfio>
- New Trends in Analysis and Control of Nonlinear PDEs, INDAM, Rome, 12-15 June 2011, invited speaker <http://www.altamatematica.it/it/node/60>
- Università Campus Biomedico, Rome, 14 June 2011
- Sixth Summer School in Analysis and Applied Mathematics, Università La Sapienza, Rome, 20-24 June 2011, keynote lecturer (6 hours)  
<http://www.mat.uniroma1.it/people/garroni/School2011.html>
- The R.Mitchell lecture 2011, 24<sup>th</sup> Biennial Conference on Numerical Analysis, University of Strathclyde, Glasgow, June 2011  
<http://www.mathstat.strath.ac.uk/naconf>
- International Conference on Numerical Methods for Hyperbolic Equations. Theory of Applications, plenary speaker, Santiago de Compostela, 4-8 July, 2011  
<http://www.usc.es/gl/congresos/nmhetatoro65/index.html>
- RISM 3, Riemann International School of Mathematics on Multiphysics and Multiphase Flows, Verbania, 25 and 30 September 2011, 2 keynote lectures  
<http://www.mate.polimi.it/RISM3/>
- International Conference on Scientific Computing, SC 2011, S.Margherita di Pula, Sardinia, Italy, October 10-14, 2011, invited talk
- Analysis and Numerics of Partial Differential Equations, In memory of Enrico Magenes, Pavia, 2-4 November 2011, invited lecture  
<http://www.imati.cnr.it/magenes2011/>
- University of Graz, Austria, 11 November 2011, SFB Colloquium
- Simula Research Laboratory, Oslo, Challenges in Computing, 15-16 December 2011, plenary speaker <http://simula.no/about/challenges>

## 2012

- Institut Camille Jourdan Colloquium, Université de Lyon-1, 30 January 2012, Lyon
- Workshop on High Order Numerical Approximation for PDEs, Hausdorff Center for Mathematics, Bonn, February 6-10 2012, invited talk
- BCAM, Basque Center for Applied Mathematics, Bilbao, Public Lecture, 21 February 2012  
[http://www.bcamath.org/documentos\\_public/archivos/actividades\\_cientificas/M4TEMOZIOAPosterandAbstract.pdf](http://www.bcamath.org/documentos_public/archivos/actividades_cientificas/M4TEMOZIOAPosterandAbstract.pdf)
- Harold J. Gay Lecture Series, WPI (Worcester Polytechnic Institute), 13 April 2012  
<http://www.wpi.edu/academics/Depts/Math/News/lectureseries.html>
- Parallel CFD 2012, 24<sup>th</sup> International Conference on Parallel Computational Fluid Dynamics, May 21-25, 2012, Atlanta, plenary speaker  
<http://sites.jsums.edu/parcfd2012/>
- Industrial and Environmental Mathematics Day, Sevilla, 8 June 2012, keynote speaker
- Nexus 2012, Relationships between Architecture and Mathematics, Milan, 11-14 June 2012, Milan, plenary speaker
- ICCS 2012, International Conference on Computational Science, Shanghai Normal University, Shanghai, July 16-20, 2012, plenary speaker
- XI Franco-Romanian Colloquium, Bucharest, 24-30 August 2012, plenary speaker

- Barcelona ESF International Conference on “Applied Partial Differential Equations in Physics, Biology and Social Sciences: Classical and Modern Perspectives », Universidad Autonoma de Barcelona, 3-6 September 2012, keynote speaker
- ECCOMAS, Minisymposium on Multiphysics Problems, Vienna, 10 September 2012, keynote lecture
- IMA Conference on Mathematics of Medical Devices and Surgical Procedures, UCL, London, 18 September 2012
- Studium Generale Lecture, Opening Ceremony of the Eindhoven Multiscale Institute, TU Eindhoven, 24 October 2012
- Bocconi Pristem lecture, 16 November 2012

### 2013

- Public Lecture, Museo della Scienza e della Tecnologia, 150th birthday of Politecnico di Milano, 7 February, 2013
- EU Regional Doctoral School, University of Aachen 18-19 February, 2013, 2 minicourses
- Public Lecture, “I Venerdì dell’Universo”, Sala Estense, Ferrara, Italy, 15 March 2013
- Laboratoire Jacques Louis Lions, Université Paris VI, 29 March 2013
- Department of Mechanical and Aerospace Engineering, Stanford University, 11 April 2013
- Scientific Computing and Imaging Institute (SCI) Distinguished Lecture, University of Utah, 12 April 2013
- Institute for Computational & Mathematical Engineering (ICME) Colloquium, Stanford University, 15 April 2013
- Feng Kang Prize 2013, public lecture, Chinese Academy of Sciences, Beijing, 7 May 2013
- Peking University, public lecture, 8 May 2013
- Feng Kang Prize 2013, academic lecture, Chinese Academy of Sciences, Beijing, 9 May 2013
- Istituto Lombardo di Scienze e Lettere, Milan, invited lecture, 15 May 2013
- Computational Phantom 2013, International Workshop, plenary speaker, 22 May 2013
- Doctoral Course at University of Santiago de Compostela, Spain, 16-19 July 2013
- Third Int. Workshop on Thin Structures, Naples, 5-7 September 2013, invited lecture
- AlfaClass, Lectio Magistralis, Politecnico di Torino, 13 September 2013
- University of Konstanz, Mathematics Colloquium, November 28, 2013

### 2014

- ICERM Workshop on “From the Clinic to Partial Differential Equations and Back”, Brown University, plenary speaker, 20 January 2014  
<http://icerm.brown.edu/tw14-1-pdecem>
- Accademia delle Scienze dell’Istituto di Bologna, 3 February 2014  
<http://www.matematica.unibo.it/it/eventi/giornate-della-sezione-di-matematica-dellaccademia-delle-scienze-dellistituto-di-bologna>
- Recent Advances on Partial Differential Equations and Applications, Levico Terme, Italy, 18 February 2014, invited speaker  
<http://www.science.unitn.it/cirm/PDEs2014.html>

- Colloquia Patavina, Mathematics Department, University of Padova, 25 March 2014  
[http://www.math.unipd.it/~conti/colloquia\\_files/20140325\\_AlfioQuarneroni.html](http://www.math.unipd.it/~conti/colloquia_files/20140325_AlfioQuarneroni.html)
- The IMA Lighthill Lecture, British Applied Math Colloquium, BACM 2014, Cardiff University, 28 April 2014 <http://mathsevents.cf.ac.uk/bamc2014/>
- Ecole Polytechnique de Paris, Palaiseau, 22 Mai 2014  
<http://www.polytechnique.edu/accueil/actualites/seminaires-et-conferences/conference-les-mathematiques-pour-vivre-mieux--308884.kjsp>
- ECMI2014, plenary lecturer, Taormina, Italy, 10 June 2014  
<http://www.taosciences.it/ecmi2014/>
- EMS distinguished speaker 2014, FJIM 2014, Bilbao, June 30 – July 4, 2014  
<http://www.euro-math-soc.eu/node/1810>
- ECMOR XIV keynote speaker 2014, 14<sup>th</sup> European Conference on the Mathematics of Oil Recovery, Catania, September 8-11, 2014  
<http://www.eage.org/events/ecmor-2014>
- CMBBE 2014, The 12<sup>th</sup> International Symposium in Biomechanics and Biomedical Engineering, plenary speaker <http://www.cmbbe2014.com>
- 37th Israel Symposium on Computational Mechanics (IACMM), keynote speaker, Tel Aviv, October 23, 2014

## 2015

- National University of Singapore, Mathematics Colloquium, January 6, 2015
- ZIB Colloquium, Konrad Zuse Center, Berlin, January 22, 2015
- FEF 2015, International Conference on Finite Elements for Fluids 2015, semi-plenary speaker, March 16-18, Taiwan, 2015
- International Conference on Optimization, Sparsity and Adaptive Data Analysis, Academia Sinica, Beijing, March 18-21, plenary speaker  
<http://osada.csp.escience.cn/dct/page/1>
- USI, Università della Svizzera Italiana, Lugano, March 31, 2015, Colloquium
- University of Naples Federico II, Alta Scuola Politecnica e delle Scienze di Base, Colloquium, April 15, 2015
- AFSI2015 International Conference, Istanbul (Turkey), 11-13 May, 2015, Invited speaker
- AEIT Seminar, Politecnico di Milano, 19 May 2015
- XXIV CEDYA / XIV CMA, Cadiz (Spain), 8-12 June 2015, Plenary speaker
- Universidad de Sevilla (Spain), Public Lecture, 9 June 2015
- International Workshop on Computational Mathematics, Qingdao (China), 29 June- 2 July, 2015, Plenary speaker
- Third Aachen Conference on Computational Engineering Science (AC.CES), Aachen (Germany), 23-24 July, 2015, Plenary speaker
- SMI Summer School on « Integrated Models for Computational Medicine », 26-31 July 2015, main lecturer
- Variational Analysis and Aerospace Engineering, III, International Center for Scientific Culture “E.Maiorana”, Erice, 28 August 2015, plenary talk
- Variational Analysis and Applications, International Center for Scientific Culture “E.Maiorana”, Erice, 30 August 2015, plenary talk

- PACM Colloquium, Princeton University, 21 September 2015
- University of Pisa, Ceremony for Galileo Galilei international prize for science, 3 October 2015
- Panorama of Mathematics, Hausdorff Center for Mathematics, University of Bonn, 21-23 October 2015, plenary speaker  
<https://www.youtube.com/watch?v=FxyO52aEuvM&index=10&list=PLul8LCT3AJqQPycscz9NZy4581-dmfgW>
- Applied Math Days, Budapest University of Technology and Economics, 26 October 2015
- Mathematical Modeling Seminar, Budapest University of Technology and Economics, 27 October 2015
- 3rd International Workshop on RB, POD and PGD Model Reduction Techniques, ENS Cachan, 4-6 November 2015, keynote speaker, <http://rom2015.sciencesconf.org/>
- Exploratory Workshop on Applications of MOR in Industrial Research and Development, Luxembourg City, 6 November 2015, keynote speaker, <http://www.eu-mor.net/event/3477/>

## 2016

- BIMoS Distinguished Lecture, TU Berlin, 11 January 2016  
<http://www.bimos.tu-berlin.de/index.php/20-academics/27-distinguished-lectures>
- IRMA Colloquium, Université de Strasbourg, 5 February 2016
- EPFL Life Science Faculty Retreat, Invited talk, 8 February 2016
- ETH D-BSSE Seminar, 8 March 2016, Basel (CH)
- 14th Annual United Arab Emirates Math Day, Abu Dhabi, March 12<sup>th</sup>, 2016, plenary talk (cancelled due to flight cancellation)
- Diderot Mathematical Forum, Politecnico di Milano – UPMC Paris – Universidad Complutense Madrid, plenary talk, March 15, 2016
- ENEmath, IST Lisbon, keynote lecturer, March 19, 2016
- IBM Research Center, Zurich: invited seminar, April 13, 2016
- MUSE – Museo delle Scienze di Trento, public lecture, May 23, 2016
- National Congress of Swiss Surgeons, Lugano, 1-3 June, 2016, invited talk
- ECCOMAS 2016, plenary lecture, Crete 6-10 June, 2016
- ICOSAHOM 2016, Rio de Janeiro, keynote talk, 27 June 2016
- Conference on Valve Related Disorders, Cambridge, 23-25 July, 2016, invited speaker
- Flow and Transport in permeable Media, Gordon Research Conference, Girona, Spain, 1-5 August, 2016, invited speaker
- Nek5000 Workshop, MIT, Cambridge, 10-12 August, 2016, invited speaker
- ESB-ITA Conference, Palermo, 8-9 September, 2016, invited speaker
- SIMAI 2016 Conference, Milan, 13-16 September, 2016, plenary speaker  
<https://www.youtube.com/watch?v=Cr3O-b0mDy4>
- NMPDEs 2016, Institut Henri Poincaré, Paris, 24 October 2016, invited speaker
- CIMPA School on Mathematical Models in Biology and Medicine, Mauritius Island, 12 December 2016, invited speaker

## 2017

- Linné FLOW Center Lecture 2017, KTH Stockholm, 12 January 2017
- DDXIV, International Conference on Domain Decomposition Methods, Svalbard, Norway, 6-10 February 2017, plenary lecture
- International Conference on Mathematical and Numerical Modelling of the Cardiovascular System and Applications, University of Pavia, 22 February 2017, invited speaker (celebrating the 70th birthday of P.Coli-Franzone)
- Seminari di Cultura Matematica, Politecnico di Milano, invited speaker (opening lecture), March 15, 2017
- University of Genova, minicourse at ISSUGE (Institute for Advanced Studies), 25 March 2017
- CMBE17, Opening plenary lecture, Pittsburgh, 10 April 2017
- <http://www.combiomed.net/2017/invited-speakers.htm>
- Euler-Vorlesung 2017 (The Euler Lecture 2017), Potsdam, Berlin, 19 May 2017 <http://www.euler-lecture.berlin/>
- University of Naples Federico II, 5 June 2017, invited speaker
- Distinguished PDE Lecture Series, Lecturer 2017, Vienna Center for Partial Differential Equations, Vienna, 6 June 2017
- <http://viennapde.tuwien.ac.at/events/pdelectures.html>
- ECCOMAS Conference on Coupled Problems, Rhodes Island, 12-14 June 2017, opening plenary lecture
- Math Summer School 2017, 4 September 2017, Opening lecture, San Pellegrino Terme (Italy)
- ACOMEN 2017, Ghent (Belgium), 18-20 September 2017, plenary lecture
- Colloquium, Institute of Mathematics Universitat de Barcelona, 18 October 2017
- Honorary Lecture, EPFL, 6 December 2017
- <https://memento.epfl.ch/event/prof-alfio-quarteroni-taking-mathematics-to-heart/>

## 2018

- Athenaeum, LUISS International School, Rome, 8 January 2018
- Biomechanics Seminar Series, Université Paris-Saclay, 25 January 2018
- Colloquium, Department of Mathematics, University of Maryland, 2 February 2018
- Keynote lecture, World Leading Research Centers - Materials Science and Spintronics, Tohoku University, Sendai, Japan, 19 February 2018
- University of Tokyo, Komaba Campus, 21 February 2018
- The Keith Stewartson Memorial Lecture, BAMC 2018, St Andrews, Scotland, 26 March 2018
- Public Conference, Chiostro del Comune di Gioia del Colle, Italy, 7 April 2018
- Doctoral School of Politecnico di Milano, Mathematics and Philosophy in Medicina, 10 May 2018
- Università Federico II, Naples, short course in Numerical Methods for PDEs, 11 May 2018
- Università di Perugia, Colloqui di divulgazione scientifica, 25 May, 2018
- Emoclinic Symposium, Cardiologia Ieri, Oggi, Domani, keynote lecture, Novara, June 8, 2018
- Management of Heart Failure: current challenges and future perspectives, invited lecture, ISMETT - Palermo, June 9, 2018
- Mathematical Institute Colloquia, University of Oxford, 15 June 2018

- VPH Summer School, Barcelona, keynote lecture, 21 June 2018  
[https://www.upf.edu/web/bcnvph\\_school](https://www.upf.edu/web/bcnvph_school)
- VPH 2018 Zaragoza, Spain, 5-7 September 2018 <http://vph-conference.org/program/keynote-speakers/>
- The Marker Lecture Series, Penn State University, 22-24 October 2018, College Station, PA, <https://math.psu.edu/events/seminar/384>
- Mathesis2018, University of Milan, 17 November 2018, keynote speaker
- Pedro Nunes Lectures 2018, Coimbra-Lisbon-Porto, 21-23 November 2018, <http://www.cim.pt/agenda/event/196>
- Colloquium in Mathematical Engineering, Three Lectures on Numerical Models for Multiphysics, Naples, Università Federico II, 4-7 December 2018  
[http://www.scuolapsb.unina.it/downloads/materiale/allegati/Corso\\_Quarteroni.pdf](http://www.scuolapsb.unina.it/downloads/materiale/allegati/Corso_Quarteroni.pdf)

### 2019

- Niguarda Hospital, Milan, Italy, 24 January 2019, invited seminar
- Cardiolucca 2019 Conference, Lucca, Italy, 8 February 2019, invited presentation
- I Lincei per la Scuola, Cagliari, Italy, 15 February 2019, invited presentation

### Teaching

- University of Pavia: Course on "Mathematical Analysis" faculty of engineering, from 1981 to 1984; Course on "Statistics and Applications", faculty of medicine, from 1982 to 1984
- University of Minnesota at Minneapolis (U.S.A.): Ph.D. Course on "Numerical methods for partial differential equations", fall quarter 1984
- University of Brescia, Faculty of Mathematical Sciences: Course on "Numerical Analysis" from 1982 to 1989; Course on "Mathematical Analysis" from 1985 to 1989; Course on "Functional Analysis" from 1989 to 1992
- Politecnico di Milano: Course on "Numerical Analysis" from 1989 to date
- Politecnico di Milano: Course on "Numerical Methods in Engineering", from 1992 to 2014
- University of Minnesota, Minneapolis, School of Mathematics: Ph.D. topic course on Numerical Analysis, 3 quarters, academic year 1990-91
- Ecole Polytechnique Fédérale de Lausanne: Course on "Mathematical Modelling of Cardiovascular Flows", Winter Semester 1998, 1999, 2000, 2002
- Ecole Polytechnique Fédérale de Lausanne: Course on "Domain Decomposition Methods for Partial Differential Equations", Winter Semester 2001
- Ecole Polytechnique Fédérale de Lausanne: Course on "Scientific Computing", Master in Mathematical Engineering, Winter Semester from 1998 to 2004
- Ecole Polytechnique Fédérale de Lausanne: Courses on "Numerical Analysis" Spring and Winter Semester from 1998 to 2017 (to virtually all the engineering branches at EPFL)
- Ecole Polytechnique Fédérale de Lausanne: Course on "Numerical Analysis of Partial Differential Equations", winter semester, from 1999 to 2017
- PostDoc (Continuing Education) Classes at Mox, Politecnico di Milano on Computational Fluid Dynamics and Finite Elements Method, from 2003 to date

- An (almost) unlimited number of courses and tutorials given at summer schools all around the World.

## LIST of PUBLICATIONS

### B. Books (author)

- B1 - C. Canuto, M. Y. Hussaini, A. Quarteroni and T. A. Zang, **Spectral Methods in Fluid Dynamics**, Springer-Verlag, New York, 1988, (557 p.)
- B2 - A. Quarteroni and A. Valli, **Numerical Approximation of Partial Differential Equations**, Springer-Verlag, Heidelberg, 1994, SCM Series n. 23. (543 p.)
- B3 - A. Quarteroni, **Elementi di Calcolo Numerico**, Esculapio, Bologna, 1994 (in Italian) (181 p.)
- B4 - A. Quarteroni, R. Sacco and F. Saleri, **Matematica Numerica**, Springer-Verlag Italia, Milan, 1998 ; second edition, 2003 (in Italian) (440 p.); third edition, 2008 (509 p.); fourth edition, 2014 (529 p.) (authors: A. Quarteroni, R. Sacco, F. Saleri and P. Gervasio).
- B5 - A. Quarteroni and A. Valli, **Domain Decomposition Methods for Partial Differential Equations**, Oxford University Press, Oxford, 1999, (360 p.)
- B6 - A. Quarteroni, R. Sacco and F. Saleri, **Numerical Mathematics**, Springer-Verlag New-York, 2000, TAM Series n. 37, (655 p.); second edition, 2007 (655 p.)
- B6a - A. Quarteroni, R. Sacco and F. Saleri, **Numerische Mathematik I, II** Springer-Verlag, Berlin and Heidelberg, 2002 (in German) (367 p. + 328 p.) (translation by L. Tobiska)
- B6b - A. Quarteroni, R. Sacco and F. Saleri, **Méthodes Numériques pour le Calcul Scientifique**, Springer-France, Paris, 2000 (in French) (444 p.) (Translation by J.F. Gerbeau)
- B7 - A. Quarteroni, **Modellistica Numerica per Problemi Differenziali**, Springer-Verlag Italia, Milan, 2000 (in Italian) (290 p.); second edition, 2003 (330 p.); third edition, 2006 (451 p.); fourth edition, 2008 (561 p.); fifth edition, 2012 (630 p.); sixth edition, 2016 (xix + 651 p.)
- B8 - A. Quarteroni and F. Saleri, **Introduzione al Calcolo Scientifico. Esercizi e Problemi Risolti con MATLAB e Octave**, Springer-Verlag Italia, Milan (in Italian). First edition, 2001(219 p.), second edition , 2004; third edition, 2006 (306p.), fourth edition, 2008 (358p.).
- B9 - A. Quarteroni, F. Saleri and P. Gervasio, **Calcolo Scientifico. Esercizi e Problemi Risolti con MATLAB e Octave**, Springer-Verlag Italia, Milan (in Italian). 5th edition, 2012 (450 p.)



B10 - A. Quarteroni and F. Saleri, **Scientific Computing with MATLAB and Octave**, Springer-Verlag Heidelberg, 2003 (257 p.); second edition, 2006 (318 p.)

B10a -A. Quarteroni and F. Saleri, **Calcul scientifique. Cours exercices corrigés et illustrations en Matlab et Octave**, Springer, 2006. (in French) (319p.) (Translation by J.F.Gerbeau)

B10b -A. Quarteroni and F. Saleri, **Cálculo Científico com MATLAB e Octave**, Springer, 2007. (in Portuguese) (320 p.) (translation by A.Sequeira)

B10c - A. Quarteroni and F. Saleri, **Cálculo Científico con MATLAB y Octave**, Springer, 2006. (in Spanish) (329 p.) (translation by R.Bermudez)

B10d - A. Quarteroni and F. Saleri, **Wissenschaftliches Rechnen mit MATLAB**, Springer, 2005 (in German) (269 p.) (Translation by K.Sapelza)

B11 - C. Canuto, M. Y. Hussaini, A. Quarteroni and T. A. Zang, **Spectral Methods: Fundamentals in Single Domains**, Springer, 2006. (563 p.)

B12 - C. Canuto, M. Y. Hussaini, A. Quarteroni and T. A. Zang, **Spectral Methods: Evolution to Complex Geometries and Applications to Fluid Dynamics**, Springer, 2007. (625 p.)

B13 - A. Quarteroni, **Numerical Models of Differential Problems**, Springer Series MS&A, Vol 2, 2009 (602 p.); 2nd edition, Springer Series MS&A, Vol 8, 2014 (656p.); 3rd edition, Springer Series MS&A, Vol 16, 2017 (xvii+681p.);

B14 - Quarteroni, F. Saleri and P.Gervasio, **Scientific Computing with MATLAB and Octave**, Springer-Verlag Heidelberg, 2010, third edition (360 p.); 2014 fourth edition (442 p.)

B14a - Quarteroni, F. Saleri and P.Gervasio, **Calcul scientifique. Cours exercices corrigés et illustrations en Matlab et Octave**, Springer-Milan, 2010 (in French) (365p.)

B14b - A. Quarteroni, F. Saleri and P.Gervasio, **Scientific Computing with MATLAB and Octave**, Maruzen Publishing Co. (Tokyo) 2014 fourth edition (502 p.) – in Japanese- (Translation by Takashi Kako)

B15 - C.D'Angelo and A. Quarteroni, **Matematica Numerica. Esercizi, Laboratori e Progetti**, Springer Series Unitext, Milan, 2009 (in Italian) (349 p.)

B15a - A. Quarteroni, **Matematica Numerica. Esercizi, Laboratori e Progetti**, Springer Series Unitext, Vol 75, Milan, 2nd edition, 2013 (in Italian) (406 p.)

B16 – A.Quarteroni, A.Manzoni and F.Negri, **Reduced Basis Method for Partial Differential Equations. An Introduction**. Springer Series Unitext, Vol.92, Milan, 2015 (296p.)

B17 – A.Quarteroni, L.Dede', A.Manzoni and C.Vergara, **Mathematical Modelling of the Human Cardiovascular System**. Data, Numerical Approximation, Clinical Applications. Cambridge University Press, 2019

B18 – A.Manzoni, A.Quarteroni, and S.Salsa, **Optimal Control Problems for Partial Differential Equations: Analysis, Approximation, Applications**. In preparation.

### **E. Books (editor)**

E1 - C. Canuto and A. Quarteroni, Eds., **Spectral and High Order Methods for Partial Differential Equations**, Elsevier, North Holland, Amsterdam, 1990.

E2 - A. Quarteroni, J. Periaux, Y. A. Kuznetsov and O. B. Widlund, Eds., **Domain Decomposition Methods in Science and Engineering**, AMS, Providence, RI, 1994. (485 p.)

E3 - A. Quarteroni, Ed., **Advanced Numerical Methods for Hyperbolic Equations**, LNM, Springer-Verlag, Heidelberg, 1998. (450 p.)

E4 - A. Quarteroni, L. Formaggia and A. Veneziani, Eds., **Complex Systems in Biomedicine**, Springer Italia, 2006 (292 p.)

E5 - L. Formaggia, A. Quarteroni and A. Veneziani, Eds., **Cardiovascular Mathematics. Modeling and Simulation of the Circulatory System**, Springer Series MS&A, Vol 1, 2009

E6 - M. Emmer and A. Quarteroni, Eds., **MATHKNOW**, Springer Series MS&A, Vol 3, 2009 (264 p.)

E7 - D. Ambrosi, A. Quarteroni and G. Rozza, Eds., **Modelling Physiological Flows**, Springer Series MS&A, Vol 5, 2011 (240p.)

E8 - A. Quarteroni and G. Rozza, Eds., **Reduced Order Methods for Modeling and Computational Reduction**, Springer Series MS&A, Vol 9, 2014 (334p.)

E9 - A. Quarteroni, Ed., **Modeling the Heart and the Circulatory System**, Springer Series MS&A, Vol 14, 2015 (236p.)

### **J. Refereed Journals Publications**

(black=printed, green=in press, blue=submitted)

J1 - A. Quarteroni, "Primal hybrid finite element methods for fourth order elliptic equations", **Calcolo XVI** (1979), pp.21-59

J2 - A. Quarteroni, "Error estimates for the assumed stresses hybrid methods in the approximation of fourth order elliptic equations", **R.A.I.R.O. An. Num. 13** (1979), pp.355-367

J3 - F. Brezzi, L. D. Marini, A. Quarteroni and P. A. Raviart, "On an equilibrium finite element method for plate bending problems", **Calcolo XVII** (1980), pp.271-291

- J4 - A. Quarteroni, "Hybrid finite element methods for the Von Karman equations" **Calcolo XVI** (1979), pp.271-288
- J5 - A. Quarteroni and A. Visintin, "On the numerical solution of a nonlinear variational equation related to a filtration problem", **Boll. U.M.I.** (5) 17-B (1980), pp.204-231
- J6 - A. Quarteroni, "On mixed methods for fourth order problems", **Comp. Meths. Appl. Mech. Engrg.** **24** (1980), pp.13-34
- J7 - A. Quarteroni, "Mixed approximation of evolution problems", **Comp. Meths. Appl. Mech. Engrg.** **24** (1980), pp.137-163
- J8 - C. Canuto and A. Quarteroni, "Propriétés d'approximations dans les espaces de Sobolev de systemes de polynomes orthogonaux", **C.R.Acad.Sci.Paris** **290-A** (1980), pp.925-928
- J9 - C. Canuto and A. Quarteroni, "Approximation Results for Orthogonal Polynomials in Sobolev Spaces", **Math. Comput.** **38** (1982), pp.67-86
- J10 - A. Quarteroni, "Some results of Bernstein and Jackson type for polynomial approximation in LP spaces", **Japan Journal of Applied Math.** **1** (1984), pp.173-181
- J11 - C. Canuto and A. Quarteroni, "Spectral and Pseudospectral Methods for Parabolic Problems with Non Periodic Boundary Conditions", **Calcolo** **23** (1981), pp.197-217
- J12 - C. Canuto and A. Quarteroni, "Error Estimates for Spectral and Pseudospectral Approximations of Hyperbolic Equations", **SIAM J. Numer. Anal.** **19** (1982), pp.629-642
- J13 - C. Canuto and A. Quarteroni, "Spectral Methods for Hyperbolic Equations", **Rend. Sem. Mat. Univers. Politecn. Torino** **39** (1981), pp.21-31
- J14 - Y. Maday and A. Quarteroni, "Approximation de l'equation de Burgers stationnaire par des methodes spectrales", **C.R. Acad. Sci. Paris** **293-I** (1981), pp.143-146
- J15 - Y. Maday and A. Quarteroni, "Approximation of Burgers' equation by pseudo-spectral methods", **R.A.I.R.O. An. Num.** **16** (1982), pp.375-404
- J16 - Y. Maday and A. Quarteroni, "Legendre and Chebyshev spectral approximations of Burgers' equation", **Numer. Math.** **37** (1981), pp.321-332
- J17 - Y. Maday and A. Quarteroni, "Spectral and pseudo-spectral approximations of Navier-Stokes equations", **SIAM J.Numer. Anal.** **19** (1982), pp.761-780
- J18 - C. Canuto, Y. Maday and A. Quarteroni, "Analysis of the Combined Finite Element and Fourier Interpolation", **Numer. Math.** **39** (1982), pp.205-220

- J19 - C. Canuto, H. Fujii and A. Quarteroni, "Approximation of Symmetry Breaking Bifurcations for the Rayleigh Convection Problem", **SIAM J. Numer. Anal.** **20** pp.873-884 (1983), pp.873-884
- J20 - C. Canuto, Y. Maday and A. Quarteroni, "Combined Finite Element and Spectral Approximation of the Navier-Stokes Equations", **Numer. Math.** **44** (1984), pp.201-217
- J21 - C. Canuto and A. Quarteroni, "Preconditioned Minimal Residual Methods for Chebyshev Spectral Calculations", **J. Comput. Phys.** **60** (1985), pp.315-337
- J22 - V. Battarra, C. Canuto and A. Quarteroni, "A Chebyshev Spectral Method for Gas Transients in Pipelines", **Comp. Meth. Appl. Mech. Engrng.** **48** (1985), pp.329-352
- J23 - A. Quarteroni, "Blending Fourier and Chebyshev Interpolation", **J. Approx. Theory** **51** (1987), pp.115-126
- J24 - N. Bressan and A. Quarteroni, "Analysis of Chebyshev Collocation Methods for Parabolic Equations", **SIAM J. Numer. Anal.** **23** (1986), pp.1138-1154
- J25 - N. Bressan and A. Quarteroni, "An Implicit/Explicit Spectral Method for Burgers' Equation", **Calcolo** **XXIII** (1987), pp.265-284
- J26 - C. Canuto and A. Quarteroni, "On the Boundary Treatment in Spectral Methods for Hyperbolic Systems", **J. Comput. Phys.** **71** (1987), pp.100-110
- J27 - A. Quarteroni, "Fourier spectral methods for pseudoparabolic equations", **SIAM J. Numer. Anal.**, **24** (1987), pp.323-335
- J28 - D. Funaro, A. Quarteroni and P. Zanolli, "An iterative procedure with interface relaxation for domain decomposition methods", **SIAM J. Numer. Anal.** **25** (6), (1988), pp.1213-1236
- J29 - Y. Maday and A. Quarteroni, "Error Analysis for Spectral Approximations to the Korteweg de Vries Equation", **MMAN** **22** (1988), pp.539-569.
- J30 - A. Quarteroni, "Domain Decomposition Techniques Using Spectral Methods", **Calcolo** **XXIV** (1987), pp.141-177
- J31 - F. Pasquarelli, A. Quarteroni and G. Sacchi-Landriani, "Spectral Approximations of the Stokes Problem by Divergence Free Functions", **J. Scientific Comput.** **2**, (1987), pp.195-226
- J32 - L. D. Marini and A. Quarteroni, "A Relaxation Procedure for Domain Decomposition Methods Using Finite Elements", **Numer. Math.** **55**, (1989), pp.575-598
- J33 - A. Quarteroni and G. Sacchi-Landriani, "Domain Decomposition Preconditioners for the Spectral Collocation Method", **J. Scientific Comput.** **3** (1), (1988), pp.45-75
- J34 - A. Quarteroni and G. Sacchi-Landriani, "Parallel Algorithms for the Capacitance Matrix Method in Domain Decompositions", **Calcolo** **25** (1-2) (1988), pp.75-102

- J35 - F. Gastaldi and A. Quarteroni, "On the Coupling of Hyperbolic and Parabolic Systems: Analytical and Numerical Approach", **Applied Numerical Mathematics** 6 (1989), pp.3-31
- J36 - A. Quarteroni, "Domain Decomposition Methods for Systems of Conservation Laws: Spectral Collocation Approximations", **SIAM J. Sci. Stat. Comput.**, 11 (6), (1990), pp.1029-1052
- J37 - A. Quarteroni, G. Sacchi Landriani and A. Valli, "Coupling of viscous and inviscid Stokes equations via a domain decomposition method for finite elements", **Numer. Math**, 59 (1991), pp. 831-859
- J38 - A. Quarteroni, " Domain Decomposition Method and Parallel Processing for the Numerical Solution of Partial Differential Equations", **Surveys on Mathematics for Industry** 1(1991) , pp.75-118
- J39 - A. Quarteroni and E. Zampieri, "Finite Element Preconditioning for Legendre Spectral Collocation Approximations to Elliptic Systems and Equations", **S.I.A.M. J. Numer. Anal.** 29, (1992), pp. 917-936
- J40 - L. Avaldi, A. Quarteroni and F. Saleri, "Finite Element Simulation of Electron Optical Systems", **Math. Models and Meth. in Applied Sciences**, 2, (1992), pp. 339-356
- J41 - A. Cividini, A. Quarteroni and E. Zampieri, "Numerical Solution of Linear Elastic Problem by Spectral Collocation Methods", **Comp. Meth. Appl. Mech. Engrng.** 104, (1993). pp. 49-76
- J42 - A. Frati, F. Pasquarelli and A. Quarteroni, "Spectral Approximation to Advection-Diffusion Problems by the Fictitious Interface Method", **J. Comput. Physics** 107, (1993), pp. 201-212
- J43 - V. I. Agoshkov, D. Ambrosi, V. Pennati, A. Quarteroni, F. Saleri, Mathematical and Numerical Modelling of Shallow Water Flow, **Computational Mechanics**, 11, (1993), pp. 280-299
- J44 - A. Quarteroni, Metodi Numerici in Fluidodinamica, **Boll. U.M.I. (7) 6-A**, (1992), pp. 157-180
- J45 - F. Pasquarelli, A. Quarteroni, Effective Spectral Approximation to Convection- Diffusion Equations, **Comput. Methods Appl. Mech. Engrng.**,116, 1994, pp.39-51
- J46 - S. Micheletti, A. Quarteroni and R. Sacco, Current-Voltage Characteristics Simulation at Semiconductor Devices Using Domain Decomposition, **J. Comput. Phys.**, 119, (1995), pp. 46-61
- J47 - V. I. Agoshkov, A. Quarteroni, F. Saleri, Recent Developments in the Numerical Simulation of Shallow Water Equations. I-Boundary Conditions, **Applied Numerical Mathematics**, 5, (1994), pp. 175-200
- J48 - V. I. Agoshkov, E. Ovchinnikov, A. Quarteroni, F. Saleri, Recent Developments in the Numerical Simulation of Shallow Water Equations. Time-

discretization Methods, **Mathematical Models and Methods in Applied Sciences**, vol.4, No.4, (1994), pp. 533-556.

J49 - P. Gervasio, A. Quarteroni and L. Valdettaro, Effective Algorithms for Spectral Methods with Applications, **Surveys on Mathematics in Industry**, 4 (1995), pp.319-336.

J50 - P. Gervasio, E. Ovchinnikov and A. Quarteroni, The Spectral Projection Decomposition Method for Elliptic Equations in 2D, **SIAM J. Numer. Anal.** 34 (1999), pp.1616-1639

J51 - E. Faccioli, A. Quarteroni and A. Tagliani, Spectral Domain Decomposition Methods for the Solution of Elastic Wave Equations, **Geophysics**, 61 (4) (1996), pp. 1160-1174

J52 - F. Maggio and A. Quarteroni, Acoustic wave simulation by spectral methods, **East-West Journal of Numerical Mathematics**, 2 (1994), pp.129-150

J53 - A. Quarteroni and L. Stolcis, Homogeneous and Heterogeneous Domain Decomposition Methods for Compressible Fluid Flows at High Reynolds Numbers, **CFD Review**, II (1998), pp.1064-1078

J54 - E. Faccioli, F. Maggio, R. Paolucci and A. Quarteroni, 2D and 3D Elastic Wave Propagation by a Pseudo-spectral Domain Decomposition Method, **Journal of Seismology**, 1 (1997), pp. 237-251

J55 - A. Quarteroni, Multifields Modeling in Numerical Simulation of Partial Differential Equations, **GAMM-Mitteilungen** 19 (1) (1996), pp.45-63

J56 - F. Gastaldi, L. Gastaldi and A. Quarteroni, Adaptive Domain Decomposition Methods for Advection-Dominated Equations, **East-West Journal of Numerical Mathematics**, 4 (1996), 165-206

J57 - F. Maggio and A. Quarteroni, Domain decomposed spectral methods for wave propagation, **ZAMM**, 76 (supplement 1) (1996), pp. 239-242

J58 - L. Formaggia, A. Scheinine and A. Quarteroni, A Numerical Investigation of Schwarz Domain Decomposition Techniques for Elliptic Problems on Unstructured Grids, **Mathematics and Computers in Simulations** 44 (1997), pp.313-330

J59 - A. Pinelli, A. Vacca and A. Quarteroni, A Spectral Multi-Domain Method for the Numerical Simulation of Turbulent Flows, **J. Comput. Phys.** 136 (1997), pp. 546-558

J60 - A. Quarteroni, D. Ambrosi, G. Fotia, G. Manzini, M. Mulas, L. Stolcis, Computational Fluid Dynamics at CRS4, **IEEE: Computational Science and Engineering**, 3 (3) (1996), pp. 4-8

J61 - L. Paglieri, D. Ambrosi, L. Formaggia, A. Quarteroni, A. L. Scheinine, Parallel Computation for Shallow Water Flow: a Domain Decomposition Approach, **Parallel Computing** 23 (1997), pp.1261-1277

- J62 - A. Quarteroni, A. Veneziani, Vascular Fluid Dynamics: Models and Methods, **Istituto Lombardo Accademia di Scienze Lettere**, Incontro di Studio n. 16 (1998), pp. 219-271
- J63 - D. J. P. Lahaye, F. Maggio, A. Quarteroni, Hybrid Finite Element Spectral Element Approximation of Waves Propagation Problems, **East-West Journal of Numerical Mathematics**, 5 (1997), pp.265-290
- J64 - A. Quarteroni, A. Tagliani, E. Zampieri, Generalized Galerkin Approximations of Elastic Waves with Absorbing Boundary Conditions, **Comput. Methods Appl. Mech. Engrg.**, 163 (1998), pp.323-341
- J65 - A. Quarteroni, M. Tuveri, A. Veneziani, Computational Vascular Fluid Dynamics : Problems, Models and Methods, **Computing and Visualization in Science**, 2 (4), (2000), pp. 163-197
- J66 - A. Quarteroni, F. Saleri, A. Veneziani, Factorization Methods for the Numerical Approximation of Navier-Stokes Equations, **Comput. Methods Appl. Mech. Engrg** 188 (2000), p.505-526
- J67 - A. Quarteroni, F. Saleri, A. Veneziani, Analysis of the Yosida method for the incompressible Navier–Stokes equations, **J. Math. Pures Appl.**, 78 (1999), pp.473-503
- J68 - E. Miglio, A. Quarteroni and F. Saleri, Mixed Finite Element Approximation of Quasi-3D Shallow Water Equations **Comput. Methods Appl. Mech. Engng.**, 174 (1999), pp.355-369
- J69 - L. Formaggia, F. Nobile, A. Quarteroni and A. Veneziani, Multiscale Modeling of the Circulatory System: A Preliminary Analysis, **Computing and Visualization in Science**, 2 (1999), pp.75-84
- J70 - L. Fontana, E. Miglio, A. Quarteroni and F. Saleri, A Finite Element Method for 3D Hydrostatic Water Flows, **Computing and Visualization in Science**, 2 (1999), pp.85-94
- J71 - L. Fatone, P. Gervasio and A. Quarteroni, Multimodels for Incompressible Flows, **J. Math. Fluid Mechanics**, 2 (2000), pp.126-150
- J72 - L. Formaggia, J. F. Gerbeau, F. Nobile and A. Quarteroni, On the Coupling of 3D and 1D Navier-Stokes equations for Flow Problems in Compliant Vessels, **Comp. Methods Appl. Mech. Engrng.** 191( 6-7) (2001), pp.561-582
- J73 - F. Casadei G. Fotia, E. Gabellini, F. Maggio and A. Quarteroni, 'A mortar spectral/finite element method for complex 2D and 3D elastodynamic problems', **Comp. Methods Appl. Mech. Engrng.** 191 ( 2002), pp.5119-5148
- J74 - A. Quarteroni, A. Veneziani and P. Zunino, Mathematical and numerical modelling of solute dynamics in blood flow and arterial walls, **SIAM J. Numer. Anal.** Vol 39, No 5, (2001), pp. 1488-1511
- J75 - L. Fatone, P. Gervasio and A. Quarteroni, Multimodels for Incompressible Flows : Iterative Solutions for the Navier-Stokes/Oseen Coupling, **M2AN (35)**, 3 ( 2001), pp.549-574

- J76 - P. Gervasio, J. L. Lions and A. Quarteroni, Heterogeneous Coupling by Virtual Control Methods, **Numer. Math.** **90** (2001) **2**, pp. 241-264
- J77 - A. Quarteroni, A. Veneziani, P. Zunino, A Domain Decomposition Method for Advection-diffusion Processes with Applications to Blood Solutes , **SIAM J. Sci. Comput.** , Vol. 23 (2002), no. 6, pp. 1959-1980.
- J78 - A. Quarteroni, S. Ragni and A. Veneziani, Coupling between lumped and distributed models for blood flow problems , **Computing and Visualization in Science**, 4 (2001) 2, pp.111-124
- J79 - L. Formaggia, J. F. Gerbeau, F. Nobile and A. Quarteroni, Numerical treatment of defective boundary conditions for the Navier-Stokes equations, **SIAM J. Numer. Anal.** **40** (2002) **1**, pp. 376-401
- J80 - E. Miglio, A. Quarteroni and F. Saleri, Coupling of free-surface and groundwater flows, **Computers and Fluids**, Vol. **32** (1) (2003), pp. 73-83
- J81 - A. Losinski, R. G. Owens and A. Quarteroni, On the Simulation of Unsteady Flow of an Oldroyd-B Fluid by Spectral Methods, **Journal of Scientific Computing**, 17 (2002), no. 1-4, pp. 375-383.
- J82 - M. Discacciati, E. Miglio and A. Quarteroni, Mathematical and numerical models for coupling surface and groundwater flows, **Applied Numerical Mathematics** **43** (2002) 57-74
- J83 - K. Laganà, G. Dubini, F. Migliavacca, R. Pietrabissa, G. Pennati, A. Veneziani, A. Quarteroni, Multiscale modelling as a tool to prescribe realistic boundary conditions for the study of surgical procedures, **Biorheology** **2002**;39 (3-4), pp.359-364.
- J84 - A. Quarteroni and A. Veneziani, Analysis of a Geometrical Multiscale Model Based on the Coupling of ODE's and PDE's for Blood Flow Simulations, **SIAM J. on MMS**, Vol.1, No.2, pp. 173-195, 2003.
- J85 - L. Formaggia, D. Lamponi and A. Quarteroni, One dimensional models for blood flow in arteries, **Journal of Engineering Mathematics**, N.47, pp.251-276, 2003.
- J86 - M. Discacciati and A. Quarteroni, Convergence analysis of a subdomain iterative method for the finite element approximation of the coupling of Stokes and Darcy equations, **Computing and Visualization in Science**, Vol. 6, No. 2-3 (2004), pp. 93-104.
- J87 - A. Quarteroni and G. Rozza, Optimal Control and Shape Optimization in Aorto-Coronary Bypass Anastomoses, **Mathematical Models and Methods in Applied Sciences**, Vol.13 (12), pp.1801-1823, 2003.
- J88 - N. Parolini and A. Quarteroni, Mathematical Models and Simulation for the America's Cup, **Comp.Meth.Appl.Mech.Eng**, Vol.194, pp. 1001-1026, 2005
- J89 - B. V. R. Kumar, A. Quarteroni, L. Formaggia and D.Lamponi, On parallel computation of blood flow in Human Arterial Network Based on 1-D Modelling, **COMPUTING**, N.71, pp.321-351, 2003.



- J90 - M. Prosi, P. Zunino, K. Perktold and A. Quarteroni, Mathematical and numerical models for transfer of low density lipoproteins through the arterial walls : a new methodology for the model set up with applications to the study of disturbed luminal flow, **Journal of Biomechanics**, Vol.38, pp. 903-917, 2005.
- J91 - M. Fernandez, V. Milisic and A. Quarteroni. Analysis of a geometrical multiscale blood flow model based on the coupling of ODE's and hyperbolic PDE's, in **SIAM J. on MMS**, Vol. 4 Number 1, pp. 215-236, 2005.
- J92 - N. Parolini and A. Quarteroni. Simulazione Numerica per la Coppa America di Vela. **Bollettino U.M.I. – Serie VII**, Vol.7- A, pp. 1-15, 2004.
- J93 - V. Milisic and A. Quarteroni. Analysis of lumped parameter models for blood flow simulations and their relation with 1D models, **M2AN**, Vol. IV, p.613-632, 2004.
- J94 - V. I. Agoshkov, A. Quarteroni and G. Rozza. Shape Design in Aorto-Coronaric Bypass Anastomoses using Perturbation Theory. **SIAM J. Numer. Anal.**, Vol. 44, No. 1, pp. 367-384, 2006.
- J95 - P. Massimi, A. Quarteroni and G. Scrofani. An adaptive finite element method for modeling salt diapirism, **Mathematical Models and Methods in Applied Sciences**, Vol.16 (4), pp.587-614, 2006.
- J96 - A. Quarteroni, M. Sala and A. Valli, An interface-strip domain decomposition preconditioner, **SIAM Journal on Scientific Computing**, Vol. 28, No. 2, pp. 498-516, 2006.
- J97 - P. Zunino, D. Mastalli, A. Quarteroni, W. Van Biesen, D. Vecten, A. Pacitti, N. Lameire, F. Neftel, J-P. Wauters. Development of a new mathematical approach to optimize peritoneal dialysis, EPFL-IACS report 03.2006. Submitted.
- J98 - V. I. Agoshkov, A. Quarteroni and G. Rozza. A mathematical approach in the design of arterial bypass using unsteady Stokes equations, **Journal of Scientific Computing**, Vol. 28, No. 2-3, pp.139-161, 2006.
- J99 - L. Dede' and A. Quarteroni. Optimal Control and Numerical Adaptivity for advection-diffusion equations. **M2AN**, Vol. 39, No.5, pp.1019-1040, 2005.
- J100 - S. Deparis, M. Discacciati, G. Fourestey and A. Quarteroni. Fluid-structure algorithms based on Steklov-Poincaré' operators. **Comput. Methods Appl. Mech. Engrng.** 195, p.5797-5812 (2006).
- J101 - A. F. Corno, M. Prosi, P. Fridez, P. Zunino, A. Quarteroni and L. K. von Segesser.  
The non-circular shape of FLOWATCH-PAB prevents the need for pulmonary artery reconstruction after banding. **Eur. J. Cardiothorac. Surg.** Vol. 29, pp. 93-99 (2006).
- J102 - V. I. Agoshkov, P. Gervasio and A. Quarteroni. Optimal Control in Heterogeneous Domain Decomposition Methods. **Russ. J. Numer. Anal. Math. Modelling**, Vol.20, No.3, pp.225-246 (2005).

- J103 - V. I. Agoshkov, P. Gervasio and A. Quarteroni. Optimal Control in Heterogeneous Domain Decomposition Methods for Advection-Diffusion Equations. **Mediterranean Journal of Mathematics**, Vol. 3, No. 2, pp.147-176 (2006).
- J104 - M. Discacciati, A. Quarteroni and A. Valli. Robin-Robin Domain Decomposition Methods for the Stokes-Darcy Coupling. **SIAM J. Numer. Anal.** Vol. 45, Issue 3, pp. 1246-1268 (2007)
- J105 - A. Quarteroni and G. Rozza. Numerical Solution of parametrized Navier-Stokes equations by reduced basis methods. **Num. Meth. Part. Diff. Eq.**, Vol. 23, No. 4, pp. 923-948 (2007)
- J106 - A. Quaini and A. Quarteroni. A Semi-Implicit Approach for Fluid-Structure Interaction Based on an Algebraic Fractional Step Method, **M3AS**, Vol. 17, No. 6, pp. 957-983 (2007)
- J107 - P. Massimi, A. Quarteroni, F. Saleri and G. Scrofani. Modeling of Salt Tectonics, **Comput. Methods Applied Mech. Engrng.** Vol 197, No. 1-4, pp. 281-293 (2007)
- J108 - E. Burman, A. Quarteroni and B. Stamm. Interior penalty continuous and discontinuous finite element approximations of hyperbolic equations, **Journal of Scientific Computing**, Volume 43, Number 3, pp. 293-312 (2010), DOI: 10.1007/s10915-008-9232-6
- J109 - E. Burman, A. Quarteroni and B. Stamm. Stabilization strategies for high order methods for transport dominated problems. **Bollettino U.M.I.**, Series IX, Vol.I, No.1, pp.57-77 (2008).
- J110 - S. Badia, A. Quaini, and A. Quarteroni. Splitting methods on algebraic factorization for fluid-structure interaction. **SIAM J. Scientific Computing**, Vol.30, N.4, pp. 1778-1805 (2008).
- J111 - A. Quarteroni, Fluid-Structure Interaction Between Blood and Arterial Walls, **Contemp. Chall. Math. Fluid Dyn. Appl.**, 1, G.P.Galdi and R.Rannacher, Eds., World Sci. Publ., Hackensack, NJ, 2010, pp. 261-289, 76Z05 (74F10 74L15 92C35)
- J112 - S. Badia, A. Quaini, and A. Quarteroni, Modular vs. Non-modular Preconditioners for Fluid-structure Systems with Large Added-mass Effect, **Comput. Methods Applied Mech. Engrng**, Vol 197, N. 49-50, pp. 4216-4232 (2008).
- J113 - R. Milani, A. Quarteroni, and G. Rozza, Reduced Basis Method for Linear Elasticity Problems with Many Parameters, **Comput. Methods Applied Mech. Engrng.** Vol.197 (2008), pp. 4812-4829.
- J114 - C. D'Angelo and A. Quarteroni, On the Coupling of 1D and 3D Diffusion-Reaction Equations. Application to Tissue Perfusion Problems, **M3AS**, Vol.18 (8), pp. 1481-1504 (2008).

- J115 – L.Badea, M.Discacciati and A.Quarteroni, Numerical Analysis of the Navier-Stokes and Darcy Equations, **Numerische Mathematik**, Volume 115, Number 2 (2010), pp. 195-227
- J116 – A.Quarteroni, Modelli Matematici, Calcolo Scientifico e Applicazioni, **Rendiconti del Seminario Matematico dell'Università e del Politecnico di Torino**, Volume 66, N.3 (2008), pp.173-183
- J117 – T.Passerini, M.R. De Luca, L.Formaggia, A.Quarteroni, A.Veneziani, A 3D/1D geometrical Multiscale Model of Cerebral Vasculature, **Journal of Engineering Mathematics**, Vol 69 (4), pp.319-330
- J118 – D.Detomi, N.Parolini and A.Quarteroni, Mathematics in the Wind, **Monografias de La Real Academia de Ciencias de Zaragoza**, 31 (2009), pp.35-56
- J119 –A.Quarteroni, Mathematical Models in Science and Engineering, **Notices of the AMS**, Volume 56, N.1 (2009), pp. 10-19
- J120 –M.Discacciati and A.Quarteroni, Navier-Stokes/Darcy coupling: modeling, analysis and numerical approximation, **Revista Matematica Complutense** 22 (2009), no.2, pp 315-426
- J121 – C.Canuto, P.Gervasio and A.Quarteroni, Finite-Element Preconditioning of G-NI Spectral Methods, **SIAM J. Sci. Comput.** 31 (2010), No 6, pp 4422 - 4451
- J122 – M.D'Elia, L.Dedé and A.Quarteroni, Reduced Basis Method for Parametrized Differential Algebraic Equations, **Bol. Soc. Esp. Mat. Apl.**, 46 (2009), pp.45-73
- J123 – X. Zhang, C.-A. Bürki, M. Stettler, D. De Sanctis, M. Perrone, M. Discacciati, N. Parolini, M. De Jesus, D.L. Hacker, A. Quarteroni and F.M. Wurm, Efficient oxygen transfer by surface aeration in shaken cylindrical containers for mammalian cell cultivation at volumetric scales up to 1,000 liters. **Biochemical Engineering Journal**, 45 (2009), pp.41–47
- J124 – Z.C.Xuan, T.Lassila, G.Rozza and A. Quarteroni, On computing upper and lower bounds on the outputs of linear elasticity problems approximated by the smoothed finite element method, **Int. J. Numer. Meth. Engng.**, Volume 83, Issue 2, pages 174–195, published online, 9 July 2010
- J125 - C. Leupi, E. Miglio, M. Altinakar, A. Quarteroni and M.O. Deville, A 3D Finite element model for free-surface flows, **Computers and Fluids**, 38 (10) (2009) pp. 1903-1916.
- J126 – P.Crosetto, S.Deparis, G.Fourestey, A.Quarteroni, Parallel Algorithms for Fluid Structure Interaction Problems in Haemodynamics, **SIAM J. Sci. Comput.** 33 (2011), pp. 1598-1622
- J127 – F.Della Rossa, C.D'Angelo and A.Quarteroni, A Distributed Model of Traffic Flows on Extended Regions, **NHM**, vol. 5, no. 3(2010), pp.525-544

J128 – D.Ambrosi, G.Arioli, F.Nobile and A.Quarteroni, Electromechanical Coupling in Cardiac Dynamics: the Active Strain Approach, **SIAM J. Applied Mathematics** 71 (2), (2011) pp. 605-621

J129 –A.Quarteroni and R.Ruiz-Baier, Analysis of a Finite Volume Element Method for the Stokes Problem, **Numerische Mathematik**, 118 (4) (2011), pp.737-764

J130 – P.Crosetto, Ph.Reymond, S.Deparis, D.Kontaxakis, N.Stergiopoulos and A.Quarteroni, Fluid Structure Interaction Simulations of Physiological Aortic Blood Flow in the Aorta, **Computers & Fluids** (2011), Vol 43, Issue 1, pp. 46-57

J131 – M.Lesinigo, C.D'Angelo and A.Quarteroni, A multiscale Darcy-Brinkman model for fluid flow in fractured porous media, **Numerische Mathematik**, 117 (4) (2011), pp. 717-752

J132 – L.Gaudio and A.Quarteroni, hN-adaptive spectral element discretization of optimal control problems for environmental applications, **SeMA Journal**, 53 (2011), pp. 55-69

J133 -- F. Nobile, A. Quarteroni and R. Ruiz-Baier, An active strain electromechanical model of cardiac tissue, **Int. J. for Numer. Meth. Biomedical Eng.** 28, 1 (2012), pp 52-71

J134 -- G.Pena, C.Prud'homme and A. Quarteroni, High order methods for the approximation of the incompressible Navier-Stokes equations in a moving domain, **CMAME**, Computer Methods in Applied Mechanics and Engineering, Volumes 209-212 (2012), 197-211

J135 -- P.J.Blanco, M.Discacciati and A. Quarteroni, Modeling Dimensionally Heterogeneous Problems: Analysis, Approximation and Applications, **Numerische Mathematik**: Volume 119, Issue 2 (2011), Page 299-335

J136 -- A.Manzoni, A. Quarteroni and G.Rozza, Shape optimization for viscous flows by reduced basis methods and free-form deformation, **Int. J. Numer. Meth. Fluids** 70(5) (2012), pp.646-670

J137 -- A.C.I.Malossi, P.Blanco, S.Deparis and A. Quarteroni, Algorithms for the partitioned solution of weakly coupled fluid models for cardiovascular flows, **Int. J. Numer. Meth. Biomedical Eng.** 27 (12), 2011, 2035-2057

J138 -- G.Migliorati and A.Quarteroni, Multilevel Schwarz methods for elliptic partial differential equations, **Comput. Methods Applied Mech. Engrng**, Volume 200, Issues 25-28 (2011), Pages 2282-2296

J139 -- M.Discacciati, A.Quarteroni and S.Quinodoz, Numerical approximation of internal discontinuity interface problems, to appear in **SIAM J. Sci. Comput.**, 35 (5) (2013), pp. 2341-2369

J140 -- P. Hunter, P. V. Coveney, B. de Bono, V. Diaz, J. Fenner, A. F. Frangi, P.

Harris, R.Hose, P. Kohl, P. Lawford, K. McCormack, M. Mendes, S. Omholt, A. Quarteroni, J. Skår, J. Tegner, S. R. Thomas, I. Tollis, I. Tsamardinos, J. H. G.M. van Beek and M. Viceconti, A vision and strategy for the virtual physiological human in 2010 and beyond, **Phil.Trans.R.Soc.A** (2010) **368**, 2595-2614

J141 -- T.Lassila, A.Quarteroni and G.Rozza, A reduced basis model with parametric coupling for fluid-structure interaction problems, **SIAM J.Sci.Comp.** 34 (2012), 1187-2013

J142 -- F.F.Antonietti, I.Mazzieri, A.Quarteroni and F.Rapetti, Non-conforming high order approximations for elastodynamics equation, **Comput. Methods Applied Mech. Engrng**, Volumes 209-212 (2012), pp. 212-238

J143 – M.Discacciati, D.Hacker, A.Quarteroni, S.Quinodoz, S.Tissot and F.Wurm, Numerical simulation of orbitally shaken viscous fluids with free surface, **Int. J. Numer. Meth. Fluids** (2013), 71(3), p. 294-315

J144 – P.Reymond, P.Crosetto, S.Deparis, A.Quarteroni and N.Stergiopoulos, Physiological simulation of blood flow in the aorta: comparison of haemodynamic indices as predicted by 3-D FSI, 3-D rigid wall and 1-D models, **Medical Engineering and Physics** 35 (6)(2013), pp. 784–791

J145 – C.D’Angelo, G.Panasenko and A.Quarteroni, Asymptotic numerical derivation of the Robin-type coupling conditions for the macroscopic pressure at reservoir-capillaries interfaces, **Applicable Analysis** 92 (1) (2013), pp.158-171

J146 –A.Quarteroni, A.Manzoni and G.Rozza, Certified Reduced Basis Approximation for Parametrized Partial Differential Equations, **Journal of Mathematics in Industry** 1:3 (2011), pp. 1-44

J147 –M.Astorino, J.Becerra Sagredo and A.Quarteroni, A Modular Lattice Boltzmann GPU-based Solver, **SeMA Journal**, 59 (2012), pp.53-78

J148 – P. Blanco, P. Gervasio, and A. Quarteroni, Extended variational formulation for heterogeneous partial differential equations, **CMAM** (Computational Methods in Applied Mathematics), 11 (2011), no. 2, pp. 141-172

J149 – S.Rossi, R.Ruiz Baier, L.Pavarino and A.Quarteroni, Orthotropic active strain models for the numerical simulation of cardiac biomechanics, **Int. J. Numer. Meth. Biomed. Engrng.**, 28 (2012), pp 761-788

J150 – A.Manzoni, A.Quarteroni and G.Rozza, Model reduction techniques for fast blood flow simulation in parametrized geometries, **Int.J.Numer.Meth.Biomedical Engrng.** 28 (2012), pp. 604-625

J151 – L.Iapichino, A.Quarteroni and G.Rozza, A Reduced Basis Hybrid Method for the Coupling of Parametrized Domains Represented by Fluidic Networks, **Comput. Methods Appl. Mech. Engrng.** 221–222 (2012), 63–82

J152 – L.Formaggia, A.Quarteroni and C.Vergara, On the physical consistency between three-dimensional and one-dimensional models in haemodynamics, **Journal of Computational Physics**, 244 (2013), pp. 97-112

J153 – T.Lassila, A.Manzoni, A.Quarteroni and G.Rozza, A reduced computational and geometrical framework for inverse problems in haemodynamics. **Int. J. Numer. Methods Biomed. Engrg.** 29 (7), pp. 741-776, 2013.

J154 – T.Lassila, A.Manzoni, A.Quarteroni and G.Rozza, Boundary control and shape optimization for the robust design of bypass anastomoses under uncertainty, to appear in **M2AN** 47 (2013), pp 1107-1131

J155 –E.Faggiano, J.Bonnemain, A.C.I.Malossi and A.Quarteroni, A framework for the analysis of the haemodynamics in patients with ventricular assist device, submitted, 2012

J156 – A.C.I.Malossi, P.Blanco, P.Crosetto, S.Deparis and A.Quarteroni, Implicit coupling of one-dimensional and three-dimensional blood-flow models with compliant vessels, **SIAM J Multiscale Model. Simul.**, 11 (2) (2013), pp.474-506

J157 – A.Manzoni, A.Quarteroni and G.Rozza, Computational reduction for parametrized PDEs: strategies and applications, **Milan Journal of Mathematics** 80 (2012), pp. 283-309

J158 – E.Faggiano, L.Antiga, G.Puppini, A.Quarteroni, G.B.Luciani and C. Vergara, Helical Flows and Asymmetry of Blood Jet in Dilated Ascending Aorta with Normally Functioning Bicuspid Valve, **Biomechanics and Modeling in Mechanobiology** 12(4) (2013), pp.801-813

J159 – J.Bonnemain, S.Deparis, M.Lesinigo, C.Malossi, A.Quarteroni, and L.v.Seghesser, Numerical simulation of left ventricular assist device implantations: Comparing the ascending and the descending aorta cannulations, **Medical Engineering & Physics**, Vol 35 (Issue 10), pp.1465-1475

J160 – P.Chen, A.Quarteroni, and G.Rozza, Stochastic optimal Robin boundary control problems of advection-dominated elliptic equations, **SIAM J. Numer. Anal.** 51-5 (2013), pp.2700-2722

J161 – A.Laadhari, A.Quarteroni, and R.Ruiz-Baier, Fully Eulerian finite element approximation of a fluid-structure interaction problem in cardiac cells", **Int. J. Numer. Meth. Engrg.**, 96 (2013), pp. 712-738

J162 – R.Ruiz-Baier, A.Gizzi, S.Rossi, C.Cherubini, A.Laadhari, S.Filippi, and A.Quarteroni, Mathematical Modelling of Active Contraction in Isolated Cardyomyocytes, **Mathematical Medicine & Biology** 31, 3 (2014), p. 259-283

J163 – P.Chen, A.Quarteroni, and G.Rozza, Comparison between reduced basis and stochastic collocation methods for elliptic problems, **J. Sci. Computing** 59, 1 (2014), p.187-216

J164 – T.Lassila, A.Manzoni, A.Quarteroni and G.Rozza, Generalized reduced basis methods and n-width estimates for the approximation of the solution manifold of parametric PDEs, In **Analysis and Numerics of Partial Differential Equations**. Contribution dedicated to Enrico Magenes (1923-2010). Springer, INdAM Series, vol. 4, F. Brezzi, P. Colli Franzone, U. Gianazza, G. Gilardi (Eds.), 2013. Re-printed also on Bollettino Unione Matematica Italiana (UMI), under permission/agreement Springer-UMI.

J165 – M.Astorino, F.Chouly and A.Quarteroni, A time-parallel framework for coupling finite element and lattice Boltzmann methods, **AMRX, Applied Mathematics Research eXpress**, Vol 2016, Issue 1, p 24-67, <https://doi.org/10.1093/amrx/abv009>, Published 09 October 2015

J166 – F.Negri, G.Rozza, A.Manzoni and A.Quarteroni, Reduced Basis Method for Parametrized Elliptic Optimal Control Problems, **SIAM J. Sci. Comput.** 35 (5) (2013), pp. A2316-A2340.

J167 – P.Chen, A.Quarteroni, and G.Rozza, Simulation-based Uncertainty quantification of human arterial network hemodynamics, **International Journal for Numerical Methods in Biomedical Engineering** 29(6): 698-721, 2013

J168 – L.Dedè and A.Quarteroni, Isogeometric analysis for second order partial differential equations on surfaces, **Comput. Methods Appl. Mech. Engrng.** 28 (2015), pp.807-834

J169 – M.Lombardi, N.Parolini and A.Quarteroni, Radial Basis Functions for Inter-Grid Interpolation and Mesh Motion in FSI Problems, **Comput. Methods Appl. Mech. Engrng.** 26 (2013), pp. 117-131

J170 – D.Baroli, A.Quarteroni and R.Ruiz-Baier, Convergence of a stabilized discontinuous Galerkin method for incompressible nonlinear elasticity, **Advances in Computational Mathematics** 39 (2013), pp. 425-443

J171 – P.Hunter, T.Chapman, P.V.Coveney, B.de Bono, V.Diaz, J.Fenner, A.F. Frangi, P. Harris, R.Hose, P.Kohl, P.Lawford, K.McCormack, M.Mendes, S.Omholt, A.Quarteroni, N.Shublaq, J.Skar, K.Stroetmann, J.Tegner, S. R.Thomas, I.Tollis, I.Tsamardinos, J.HGM.van Beek and M.Viceconti, A vision and strategy for the VPH: 2012 update, **Interface Focus**, 20130004. <http://dx.doi.org/10.1098/rsfs.2013.0004>, 2013

J172– C. Vergara, S. Palamara, D. Catanzariti, C. Pangrazzi, F. Nobile, M. Centonze, E. Faggiano, M. Maines, A. Quarteroni and G. Vergara, Patient specific generation of the Purkinje network driven by clinical measurements of a normal propagation, **Medical & Biological Engineering & Computing** 52 (10) (2014), pp. 813-826

J173 – P.Chen, A.Quarteroni and G.Rozza, A Weighted Reduced Basis Method for Elliptic Partial Differential Equations with Random Input Data, **SIAM J. Numer. Anal.**, 51(6) (2013) :3163-3185

J174 – P.Chen, A.Quarteroni and G.Rozza, A Weighted Empirical Interpolation Method: A-priori Convergence Analysis and Applications, **ESAIM: Mathematical Modelling and Numerical Analysis** **48 (4)** (2014), pp. 243-253, doi: 10.1051/m2an/2013128

J175 – M. Discacciati, P. Gervasio and A. Quarteroni, The Interface Control Domain Decomposition (ICDD) Method for Elliptic Problems, **SIAM J. Control Optim.** **51(5)** (2013), pp. 3434-3458

J176 – P.Chen and A.Quarteroni, Accurate and Efficient Evaluation of Failure Probability for Partial Differential Equations with Random Input Data, **Computer Methods in Applied Mechanics and Engineering**, 267(0) (2013): 233-260

J177 – E.Faggiano, T.Lorenzi and A.Quarteroni, Metal artifact reduction in computer tomography images by a fourth-order variational flow, **Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization**, **4** (2016), pp. 202-2013

J178 – M. Discacciati, P. Gervasio and A.Quarteroni, Interface Control Domain Decomposition Methods for Heterogeneous Problems, **Int. J. Numer. Meth. Fluids** **76** (2014), pp. 471–496 DOI: 10.1002/flid.3942

J179 – A.Int.J.Numer.Methods, L.Dedè and A.Quarteroni, Isogeometric Analysis and Error Estimates for High Order Partial Differential Equations in Fluid Dynamics, **Computers & Fluids** **102** (2014), p. 277-303

J180 – M. Discacciati, P. Gervasio and A.Quarteroni, The Interface Control Domain Decomposition (ICDD) Method for the Stokes Problem, **J. Coupled Syst. Multiscale Dyn.** **1** (2013), pp. 372-392

J181 – T.Taddei, S.Perotto and A.Quarteroni, Reduced Basis Techniques for Nonlinear Conservation Laws, **M2AN** **49** (2015), pp.787-814

J182 – P.Antonietti, B.Ayuso de Dios, I.Mazzieri and A.Quarteroni, Stability analysis of discontinuous Galerkin approximations to the elastodynamics problem, **J.Scientific Computing**, **68(1)** (2016), pp.143-170

J183 – P.Chen and A.Quarteroni, Weighted reduced basis methods for stochastic optimal control problems with elliptic PDE constraint, **SIAM/ASA Journal on Uncertainty Quantification** **2 (1)**, (2014), pp 364-396

J184 –B. Andreianov, M. Bendahmane, A.Quarteroni and R.Ruiz-Baier, Solvability analysis and numerical approximation of linearized cardiac electromechanics, **M3AS** **25 (5)** (2015), pp. 959-993, DOI: 10.1142/S0218202515500244

J185 – S. Rossi, T. Lassila, R. Ruiz-Baier, A. Sequeira and A. Quarteroni, Thermodynamically consistent activation model capturing ventricular systolic wall thickening in cardiac electromechanics, **European Journal of Mechanics A/Solids** **48** (2014), pp.129-142



J186 – S.Deparis, G.Grandperrin and A. Quarteroni, Parallel Preconditioners for the unsteady Navier-Stokes Equations and applications to Hemodynamics Simulations, **Computers and Fluids** 92 (2014), p. 253-273

J187 – S. Deparis, D. and A. Quarteroni, A rescaled localized radial basis functions interpolation on non-cartesian and non-conforming grids, **SIAM J.Sci.Comput.** 36 (6) (2014), pp 2745-2762

J188 – A.Koshakji, A. Quarteroni and G.Rozza, Free form deformation techniques applied to 3D shape optimization problems, **Communications in Applied and Industrial Mathematics**, DOI: 10.1685/journal.caim.452

J189 – P. Chen, A. Quarteroni and G. Rozza, Multilevel and weighted reduced basis method for stochastic optimal control problems constrained by Stokes equations. **Numer. Math.** 133 (1) (2016), 67-102

J190 – P.Tricerri, L.Dedè, A.Gambaruto, A. Quarteroni and A.Sequeira, A numerical study of isotropic and anisotropic constitutive models with relevance to healthy and unhealthy cerebral arterial tissues, **International Journal of Engineering Science**, International Journal of Engineering Science, Vol. 101, 04.2016, p. 126-155.

J191 – T.Taddei, A. Quarteroni and S.Salsa, An offline-online Riemann solver for one-dimensional systems of conservation laws, **Vietnam Journal of Mathematics** 44, Issue 4 (2016), pp 873–891

J192 –T.Khashiwabara, C.M. Colciago, L.Dedé and A. Quarteroni, Well-posedness, regularity, and convergence analysis of the finite element approximation of a generalized Robin boundary value problem, **SIAM J. Numer. Anal.** 53 (1) (2015), pp. 105-126

J193 – M.Benzi, S.Deparis, G.Grandperrin and A. Quarteroni, Parameter estimates for the relaxed dimensional factorization preconditioner and application to hemodynamics, **Comput. Methods Appl. Mech. Engrng.** 300 (2016), pp. 129-145

J194 – P.Chen and A.Quarteroni, A new algorithm for high-dimensional uncertainty quantification based on dimension-adaptive sparse grid approximation and reduced basis methods , **J.Comput.Phys.** 298 (2015), pp 176-193

J195 – S.Pezzuto, D.Ambrosi and A.Quarteroni, An orthotropic active-strain model for the myocardium mechanics and its numerical approximation, **European Journal of Mechanics - A/Solids** 48 (2014), pp.83-96

J196 – L.Dedè, C.Jaeggli and A.Quarteroni, Isogeometric numerical dispersion analysis for elastic wave propagation, **Comput. Methods Appl. Mech. Engrng.** 284 (2015), pp. 320-348, DOI: 10.1016/j.cma.2014.09.013

J197 – M.Discacciati, P.Gervasio, A.Giacomini and A.Quarteroni, The Interface Control Domain Decomposition method for Stokes-Darcy coupling, **SIAM J. Numerical Analysis** 54 (2) (2016), pp.1039-1068

J198 – F.Ballarin, A.Manzoni, A.Quarteroni, and G.Rozza, Supremizer stabilization of POD- Galerkin approximation of parametrized Navier-Stokes equations, **Int. J. Numer. Meth. Engng**, 102 (5) (2015), p. 1136-1161

J199 – R.Penta, D.Ambrosi and A.Quarteroni, Multiscale homogenization for fluid and drug transport in vascularized malignant tissues, **M3AS**, Vol. 25, Issue 01 (2015), pp. 79-108

J200 – P.Antonietti, P.Pacciarini and A.Quarteroni, A Discontinuous Galerkin Reduced Basis Element Method for Elliptic Problems, **M2AN**, Vol. 50 (2016), pp. 337-360

J201 –S. Palamara, C. Vergara, D. Catanzariti, E.Faggiano, C. Pangrazzi, M. Centonze, F. Nobile, M. Maines and A. Quarteroni, Computational generation of the Purkinje network driven by clinical measurements: The case of pathological propagations, **International Journal for Numerical Methods in Biomedical Engineering**, Volume 30, Issue 12 (2014), pp. 1558–1577

J202 – P.Tricerri, L. Dedè, S. Deparis, A. Quarteroni, A.M. Robertson, A. Sequeira, Fluid-structure interaction simulations of cerebral arteries modeled by isotropic and anisotropic constitutive laws, **Computational Mechanics**, Vol. 55, Issue 3, pp. 479-498

J203 – S.Zhu, L.Dedè and A. Quarteroni, Isogeometric analysis and proper orthogonal decomposition for parabolic problems, **Numerische Mathematik** 135 (2) (2017), pp.333-370

J204 – M.C.Colciago, S.Deparis and A. Quarteroni, Comparisons between reduced order models and full 3D models for fluid-structure interaction problems in haemodynamics, **J. Computational and Applied Mathematics** 265 (2014), pp.120-138

J205 – A.Laadhari and A. Quarteroni, Mathematical modeling of heart valves using resistive Eulerian surfaces, **IJNBME** 32 (5) (2016) DOI: 10.1002/cnm.2743, 2015

J206 – P.Chen, A. Quarteroni and G.Rozza, Reduced basis methods for uncertainty quantification, **SIAM/ASA J. Uncertainty Quantification**, 5(1) (2017), 813–869

J207 – L.Iapichino, A. Quarteroni and G.Rozza, Reduced basis method and domain decomposition for elliptic problems in networks and complex parametrized geometries, **CAMWA**, Vol.71, Issue 1 (2016), 408-430

208 – P.F. Antonietti, C., I. Mazzieri and A. Quarteroni, High order discontinuous Galerkin methods on simplicial elements for the elastodynamics equation, **Numerical Algorithms** 71,1 (2016), p.181-206

J209 – A. Bartzaghi, L. Dedè and A. Quarteroni, Isogeometric Analysis of High Order Partial Differential Equations on Surfaces, **Comput. Methods Appl. Mech. Engrg.**, Vol. 295 (2015), pp. 446–469

J210 – M. G. C. Nestola, E. Faggiano, C. Vergara, R. M. Lancellotti, S. Ippolito, S. Filippi, A. Quarteroni and R. Scrofani, Computational comparison of aortic root stresses in presence of stentless and stented aortic valve bio-prostheses, **Computer Methods in Biomechanics and Biomedical Engineering**, Volume 20 (2), (2017), pp 171-181

J211 – D. Forti, S. Deparis, G. Grandperrin and A. Quarteroni, FaCSI: a Block Parallel Preconditioner for fluid-Structure Interaction in Hemodynamics, **J. Comput. Physics** (327) (2016), 700-718

J212 – A. Tagliabue, L. Dedè and A. Quarteroni, Nitsche's Method for Parabolic Partial Differential Equations with Mixed Time Varying Boundary Conditions, **ESAIM : M2AN** 50 (2016), 541-563

J213 – A. S. Patelli, L. Dedè, T. Lassila, A. Bartzaghi and A. Quarteroni, Isogeometric approximation of cardiac electrophysiology models on surfaces: an accuracy study with application to the human left atrium, **Comput. Methods Appl. Mech. Engrg** - ISSN:0045-7825, DOI:10.1016/j.cma.2016.12.022, vol. 317, pp.248-273

J214 – S. Deparis, D. Forti, P. Gervasio and A. Quarteroni, INTERNODES: an accurate interpolation-based method for coupling the Galerkin solutions of PDEs on subdomains featuring non-conforming interfaces, **Computers and Fluids** 141 (2016), pp. 221-41

J215 – C. Vergara, M. Lange, S. Palamara, T. Lassila, A. F. Frangi and A. Quarteroni, A coupled 3D-1D numerical monodomain solver for cardiac electrical activation in the myocardium with detailed Purkinje network, **J. Comput. Physics**, Volume 308 (C) (2016), pp 218-238

J216 – A. Quarteroni, A. Veneziani and C. Vergara, Geometric multiscale modeling of the cardiovascular system, between theory and practice, **Comput. Methods Appl. Mech. Engrg.** 302 (2016), 193-252

J217 – F. Ballarin, E. Faggiano, S. Ippolito, A. Manzoni, A. Quarteroni, G. Rozza, R. Scrofani, Fast simulations of patient-specific haemodynamics of coronary artery bypass grafts based on a POD–Galerkin method and a vascular shape parametrization, **J. Comput. Physics**, Volume 315 (C) (2016), pp.609-628

J218 – P. Pacciarini, P. Gervasio and A. Quarteroni: Spectral Based Discontinuous Galerkin Reduced Basis Element Method for Parametrized Stokes Problems, **CAMWA** 72(8) (2016), pp 1977-1987

J219 – D.Balzani, S.Deparis, S.Fausten, D.Forti, A.Heinlein, A.Klawonn, A.Quarteroni, O.Rheinbach and J.Schroeder, Numerical Modeling of Fluid-Structure Interaction in Arteries with Anisotropic Polyconvex Hyperelastic and Anisotropic Viscoelastic Material Models at Finite Strains, **IJNMBE**, **32**(10), (2016)

J220 – A.Tagliabue, L.Dedè and A.Quarteroni, Fluid dynamics of an idealized left ventricle: the extended Nitsche's method for the treatment of heart valves as mixed time varying boundary conditions, **International Journal for Numerical Methods in Fluids** **85** (3) (2017), pp. 135-164

J221 – S.Zhu, L.Dedè and A.Quarteroni, Isogeometric Analysis and Proper Orthogonal Decomposition for the Acoustic Wave Equation, **ESAIM: M2AN** **51** (2017), pp 1197-1221

J222 – A.Quarteroni, T. Lassila, S. Rossi, R. Ruiz-Baier , Integrated Heart – Coupling multiscale and multiphysics models for the simulation of the cardiac function, **Comput. Methods Appl. Mech. Engrng.** **314** (2017), 345-407

J223 – A. Bartzzaghi, L. Dedè and A. Quarteroni, Isogeometric Analysis of Geometric Partial Differential Equations, in **Computer Methods in Applied Mechanics and Engineering**, 2016, doi.org/10.1016/j.cma.2016.08.014, ISSN: 0045-7825, vol. 311 pp. 625-647

J224 – B.Guerciotti, C. Vergara, S. Ippolito, A.Quarteroni, C.Antona and R. Scrofani, Computational study of the risk of restenosis in coronary bypasses, **Biomechanics and Modeling in Mechanobiology**, February 2017, Volume 16 (1) (2017), 313–332

J225 – A. Ferroni, P.F. Antonietti, I. Mazzieri and A. Quarteroni, Dispersion-dissipation analysis of 3D continuous and discontinuous spectral element methods for the elastodynamics equation, **Geophysical Journal International**, 2017, Volume 211, Issue 3, 1 December 2017, Pages 1554–1574, <https://doi.org/10.1093/gji/ggx384>

J226 – D.Bonomi, A.Manzoni and A.Quarteroni, A matrix discrete empirical interpolation method for the efficient model reduction of parametrized nonlinear PDEs: application to nonlinear elasticity problems, submitted, **Comp. Methods Appl. Mech. Engrng.** **324** (2017), pp.300-326

J227 – S.Pagani, A.Manzoni and A.Quarteroni, A reduced-basis ensemble Kalman filter for state/parameter identification in large-scale nonlinear dynamical systems, **SIAM/ASA J Uncertainty Quantification** **5**(1), pp. 890-921, 2017

J228 – Y.Maday, A.Manzoni and A.Quarteroni, An online intrinsic stabilization strategy for the reduced basis approximation of parametrized advection-dominated problems, **C. R. Acad. Sci. Paris**, Ser. I **354** (12), pp. 1188-1194, 2016

J229 –A.Manzoni, F.Negri and A.Quarteroni, Dimensionality reduction of parameter dependent problems through proper orthogonal decomposition,

**Annals of Mathematical Sciences and Applications**, Vol. 1, No. 2 (2016), pp. 341-377

J230 – D.Forti, A.Quarteroni and S.Deparis, A parallel algorithm for the numerical solution of large-scale nonconforming fluid-structure interaction problems in hemodynamics, **Journal of Computational Mathematics** 35 (3) (2017), pp. 363-380

J231 – M. Fedele, E. Faggiano, L. Dedè and A.Quarteroni, A Patient-Specific Aortic Valve Model based on Moving Resistive Immersed Implicit Surfaces, **Biomechanics and Modeling in Mechanobiology**, 2017; 16(5):1779-1803. doi: 10.1007/s10237-017-0919-1

J232 – M. Lange, S. Palamara, T. Lassila, C. Vergara, A. Quarteroni and A.F. Frangi, Improved Hybrid/GPU Algorithm for Solving Cardiac Electrophysiology Problems on Purkinje Networks, **Int. J. Numer. Meth. Biomed. Eng.** 33(6),2017  
<https://onlinelibrary.wiley.com/doi/epdf/10.1002/cnm.2835>

J233 – F.Ballarín, E.Faggiano, A.Manzoni, G.Rozza, A.Quarteroni, S.Ippolito, C.Antona and R.Scrofani, A fast virtual surgery platform for many scenarios haemodynamics of patient specific coronary artery bypass grafts, **Biomech. Model. Mechanobiol.** 16(4), pp. 1373-1399, 2017

J234 – A.Quarteroni, A.Manzoni and C.Vergara, The Cardiovascular System: Mathematical Modeling, Numerical Algorithms, Clinical Applications, **ACTA NUMERICA** 26 (2017), pp. 365-590

J235 – P.Gervasio and A.Quarteroni, Analysis of the INTERNODES Method for Non-conforming Discretizations of Elliptic Equations, **Comput. Methods Appl. Mech. Engrg.** 334 (2018) 138–166

J236 –A.Tagliabue, L.Dedè and A.Quarteroni, Complex blood flow patterns in an idealized left ventricle: a numerical study, **CHAOS**,2017; 27(9):093939. doi: 10.1063/1.5002120.

J237 – F. Scardulla<sup>1</sup>, S. Pasta, L. D'Acquisto<sup>1</sup>, S. Sciacca<sup>3</sup>, V. Agnese, C. Vergara<sup>4</sup>, A.Quarteroni, F. Clemenza<sup>3</sup>, D. Bellavia<sup>3</sup> and M. Pilato, Shear Stress Alterations in the Celiac Trunk of Patients with Continuous-Flow Left Ventricular Assist Device by In-Silico and In-Vitro Flow Analysis, **Journal of Heart and Lung Transplantation**, 36(8), pp. 906-913, 2017  
<https://www.sciencedirect.com/science/article/pii/S105324981731731X>

J238 – B.Guerciotti, C.Vergara, S.Ippolito, A.Quarteroni, C.Antona and R.Scrofani, A computational fluid-structure interaction analysis of coronary Y-grafts, **Med. Eng. Phys.** 47 (2017), pp.117-127

J239 – R.M.Lancellotti, C.Vergara, L.Valdettaro, S.Bose and A.Quarteroni, Large Eddy Simulations for Blood Fluid-Dynamics in Real Stenotic Carotids, **Int.J. Numer. Meth. Biomed. Eng.**, 33(11), 2017  
<https://onlinelibrary.wiley.com/doi/full/10.1002/cnm.2868>

J240 – P.Antonietti, A.Ferroni, I.Mazzieri, R.Paolucci, A.Quarteroni, C.Smerzini and M.Stupazzini, Numerical modeling of seismic waves by discontinuous spectral element methods, **ESAIM** 61 (2018), pp 1-37

J241 – A.Bartezzaghi, L.Dedè, A.Quarteroni, Biomembrane modeling with Isogeometric Analysis, **Comput. Methods Appl. Mech. Engrg.**, 2017, to appear

J242 – A.Quarteroni, M for Models, **Lett Matt Int** (2017), doi:10.1007/s40329-017-0175-3

J243 – A.Gerbi, L.Dedè, and A.Quarteroni, A monolithic algorithm for the simulation of cardiac electromechanics in the human left ventricle, 2017, submitted

J244 – F.Menghini, L.Dedè, and A.Quarteroni, Hemodynamics in a left atrium based on a Variational Multiscale - LES numerical model, 2017, submitted

J245 – F.Menghini, L.Dedè, and A.Quarteroni, Variational Multiscale LES modeling for the blood flow in an idealized left human heart, 2017, submitted

J246 – F.Regazzoni, L.Dedè, and A.Quarteroni, Active contraction of cardiac cells : a reduced model for sarcomere dynamics with cooperative interactions, **Biomechanics and Modeling in Mechanobiology**, submitted, 2017

J247 – A.Quarteroni, Taking Mathematics to Heart, **Notices of the American Mathematical Society**, Vol 65 (2018), Number 1, p. 19-65

J248 – P.Antonietti, N. Dal Santo, I.Mazzieri, and A.Quarteroni, A high-order discontinuous Galerkin approximation to ordinary differential equations with applications to elastodynamics, **IMA J. Numerical Analysis**, 2017 , DOI:10.1093/imanum/drx062. pp.1-25, - ISSN: 0272-4979

J249 – N. Dal Santo, S.Deparis, A.Manconi and A.Quarteroni, Multi space reduced basis preconditioners for large-scale parametrized PDEs, **SIAM J. Sci. Comput.** (2018), 40 (2), A954–A983. (30 pages), doi.org/10.1137/16M1089149

J250 – N. Dal Santo, S.Deparis, A.Manconi and A.Quarteroni, An algebraic least squares reduced basis method for the solution of nonaffinely parametrized Stokes equations, **Comp. Methods Appl. Mech. Engrng.** 344, pp. 186-208, 2019

J251 – S.Deparis, M.Deville, F.Menghini, L.Pegolotti and A.Quarteroni, Application of the Rosenbrock methods to the solution of unsteady 3D incompressible Navier-Stokes equations, **Computers and Fluids**, in press, 2018

J252 – L.Barbarotta, S.Rossi, L.Dedè and A.Quarteroni, A Transmurally Heterogeneous Orthotropic Activation Model for Ventricular Contraction and its Numerical Validation, **International Journal for Numerical Methods in Biomedical Engineering**, 2018; 34(12):e3137. doi: 10.1002/cnm.3137

J253 – L.Dedè and A.Quarteroni, Isogeometric Analysis of a Phase Field Model for Darcy Flows with Discontinuous Data, **Chinese Annals of Mathematics, Series B**, May 2018, Volume 39, Issue 3, pp 487–512 DOI: 10.1007/s11401-018-0079-3. ISSN:0252-9599

J254 – M.Landajuela, M.Vergara, A.Gerbi, L.Dedè, L.Formaggia and A.Quarteroni, Numerical approximation of the electromechanical coupling in the left ventricle with inclusion of the Purkinje network, **Int. J. Num. Meth. Biomed. Eng.**, 34, e2984, 2018  
<https://onlinelibrary.wiley.com/doi/full/10.1002/cnm.2984>

J255 – A.Quarteroni, The role of Statistics in the era of big data: a computational scientist' perspective, **Statistics and Probability Letters** 136 (2018), 63–67

J256 – L.Pegolotti, L.Dedè and A.Quarteroni, Isogeometric Analysis of the electrophysiology in the human heart: numerical simulation of the bidomain equations on the atria , **Comp. Methods Appl. Mech. Engrg.**, Volume 343, 1 January 2019, Pages 52-73

J257 – P.Gervasio, L.Dedè, O.Chanon and A.Quarteroni, Comparing Isogeometric Analysis and Spectral Element Methods: accuracy and spectral properties, submitted, 2018

J258 – A.Gerbi, L.Dede' and A.Quarteroni, Segregated algorithms for the numerical simulation of cardiac electromechanics in the left human ventricle, *Journal of Scientific Computing*, submitted.

J259 – A.Manzoni, D.Bonomi and A.Quarteroni, Reduced order modeling for cardiac electrophysiology and mechanics: new methodologies, challenges & perspectives, submitted, 2018

J260 – S.Pagani, A.Manzoni and A.Quarteroni, Numerical approximation of parametrized problems in cardiac electrophysiology by a local reduced basis method, **Comput. Meth. Appl. Mech. Engrg.** 340, pp. 530-558, 2018.

J261 – P. Gervasio and A. Quarteroni, The INTERNODES method for non-conforming discretizations of PDEs, **CAMC (Communications on Applied Mathematics and Computation)**, in press, 2019

J262 – N. Dal Santo, S.Deparis, A.Manzoni and A.Quarteroni, Multi space reduced basis preconditioners for parametrized Stokes equations, **Comput. Math. with Appl.**, in press, doi.org/10.1016/j.camwa.2018.09.036

J263 – S. Stella, L. Giovannacci, C. Vergara, A. Quarteroni and G. Prouse, Assessing the disturbed flow and the transition to turbulence in the arteriovenous fistula, submitted, 2018

J264 – F.Regazzoni, L.Dede' and A. Quarteroni, Machine learning for fast and reliable solution of time-dependent differential problems, submitted, 2019

J265 – A.Manzoni, A. Quarteroni and S.Salsa, A saddle point approach to an optimal boundary control problem for steady Navier-Stokes equations, **Mathematics in Engineering**, 2019, in press

J266 – A.Masci, L.Barone, L.Dede', M.Fedele, C.Tomasi, A.Quarteroni and C.Corsi, S.Pagani, A.Manzoni and A.Quarteroni, The Impact of Left Atrium Appendage Morphology on Stroke Risk Assessment in Atrial Fibrillation: A Computational Fluid Dynamics Study, **Front. Physiol.**, 22 January 2019 | <https://doi.org/10.3389/fphys.2018.01938>

J267 – G.Prouse, S.Stella, C.Vergara, S.Engelberger, R.Trunfio, R.Canevascini, A. Quarteroni, and L. Giovannacci, Computational analysis of turbulent haemodynamics in radiocephalic arteriovenous fistulas with different anastomotic angles, 2019

### I. Invited Conference Proceedings and Book Chapters

I1 - C. Canuto and A. Quarteroni, "Variational Methods in the Theoretical Analysis of Spectral Approximations", pp.55-78 in **Spectral Methods for Partial Differential Equations**, ed. R. G. Voigt, D. Gottlieb and M. Y. Hussaini, SIAM, Philadelphia (1984).

I2 - A. Quarteroni, "Theoretical and computational aspects of spectral methods", pp. 325 - 345 in **Computing Methods in Applied Sciences and Engineering**, V, ed. R. Glowinski and J. L. Lions, North-Holland, Amsterdam (1982).

I3 - A. Quarteroni, "Theoretical motivations underlying spectral methods", pp.79-92 in **Numerical Solutions of Non-Linear Problems**, INRIA, Rocquencourt (1983).

I4 - A. Quarteroni, "Spectral methods for flow problems", pp.124-132 in **Applications of Mathematics in Technology**, ed. V. Boffi and H. Neunzert, B. G. Teubner, Stuttgart (1984).

I5 - A. Quarteroni, "Approximation Theory and Analysis of Spectral Methods", pp.322-331 in **Multivariate Approximation Theory III**, ed. W. Schempp and K. Zeller, Birkhauser Verlag, Basel (1985).

I6 - A. Quarteroni, "Gas Transient Simulations with Spectral Methods", pp.123-136 in **Computing Methods in Applied Sciences and Engineering**, ed. R. Glowinski and J. L. Lions, North-Holland, Amsterdam (1986).

I7 - A. Quarteroni, "Semi-implicit time advancing schemes for spectral methods", in **Methodes Spectrales**, R. Temam Ed., Collection de la Direction des Etudes et Recherches d'Electricité de France, n.68, EYROLLES, Paris, 1988, pp.113-127.

I8 - L. D. Marini and A. Quarteroni, "An Iterative Procedure for Domain Decomposition Methods: A Finite Element Approach", pp.129-143 in **Domain Decomposition Methods for PDEs**, I, R. Glowinski et al., Eds., SIAM, Philadelphia (1988).

I9 - A. Quarteroni, "Domain decomposition methods for Partial Differential Equations", in Proc. of the French-Soviet-Italian Symposium on **Computational**



**Mathematics and Applications**, Yu. Kuznetsov Ed., Moscow 1989, pp.79-92 (in Russian).

I10 - A. Quarteroni, "Domain Decomposition Algorithms for the Stokes Equations", pp. 431 - 442, **Domain Decomposition Methods**, T. Chan et al., Eds., SIAM, Philadelphia (1989).

I11 - A. Quarteroni and G. Sacchi-Landriani, "Iteration by Subdomain Methods in Fluid Dynamics", pp.54-76, in **Applications of Mathematics in Industry and Technology**, 1989, V. Boffi and H. Neunzert eds., Teubner Verlag, Basel.

I12 - A. Quarteroni, "Iteration by Subdomain Algorithms for Systems of Hyperbolic Equations", pp. 181-192 in **Parallel Computing: Methods, Algorithms, Applications**, D. J. Evans and C. Sutti, Eds., Adam Hilger, Bristol, 1989.

I13 - A. Quarteroni and A. Valli, "Domain Decomposition for a Generalized Stokes Problem", Proc. of the **Third European Conference on Mathematics in Industry**, Kluwer and B. G. Teubner, Stuttgart, 1990, pp.59-74.

I14 - F. Gastaldi, A. Quarteroni and G. Sacchi-Landriani, "On the coupling of two-dimensional hyperbolic and elliptic equations: analytical and numerical approach", In T.Chan et Al., Eds. **Domain Decomposition Methods for Partial Differential Equations, III**, SIAM, Philadelphia, 1990, pp.22-63.

I15 - A. Quarteroni and E. Zampieri, "A multilevel domain decomposition method for elliptic problems", Proc. of the Eight French-Soviet-Italian Symposium on **Computational Mathematics and Applications**, E.Magenes, Ed., I.A.N.-C.N.R., Pavia, 1989, pp.327-349.

I16 - A. Quarteroni and A. Valli, "Theory and application of Steklov-Poincaré operators for boundary value problems", in **Applied and Industrial Mathematics**, R.Spigler Ed., Kluwer Academic Publisher, Dordest, 1990, 179-203

I17 - D. Pavoni and A. Quarteroni, "Numerical Solution of the Navier-Stokes equations by domain decomposition methods", in **Computational Methods in Surface Hydrology**, Eds. G.Gambolati et Al., CMP, Springer, Berlin, 1990, pp.313-320

I18 - A. Quarteroni, "An Introduction to Spectral Methods for Partial Differential Equations", in **Advances in Numerical Analysis, Vol. I: Nonlinear Partial Differential Equations and Dynamical Systems**, Ed. W.Light, Clarendon Press, Oxford, 1991, 96-146.

I19 - A. Quarteroni and A. Valli, "Theory and Applications of Steklov-Poincaré Operators for Boundary-Value Problems: The Heterogeneous Operators Case", in **Domain Decomposition Methods for Partial Differential Equations, IV**, R.Glowinski et Al., Eds., SIAM, Philadelphia, 1991, 58-81

I20 - A. Quarteroni, F. Pasquarelli and A. Valli, "Heterogeneous Domain Decomposition: Principles, Algorithms, Applications", **Domain Decomposition Methods for Partial Differential Equations, V**, D.Keyes et Al., Eds., SIAM, Philadelphia, 1992, 129-150

- I21 - A. Quarteroni and A. Valli, Mathematical Modelling and Numerical Approximation of Fluid Flow, in **METECC, Methods and Techniques in Computational Chemistry**, Vol. C: Structure and Dynamics, E.Clementi Ed., STEF, Cagliari, 1993, pp. 247-298
- I22 - A. Quarteroni, "Mathematical Aspects of Domain Decomposition Methods", Proceedings of the **First European Congress of Mathematics**, Vol.2, A.Joseph et Al., Eds., Birkhauser, Basel, 1994, pp.355-380
- I23 - C. Carlenzoli, A. Quarteroni, Adaptive Domain Decomposition Methods for Advection - Diffusion Problems, in Babuska, Ivo et al. Eds., **Modeling, Mesh Generation, and Adaptive Numerical Methods for Partial Differential Equations**, series: IMA Volumes in Mathematics and its Applications, vol. 75, Springer Verlag, 1995, pp. 165-199
- I24 - A. Quarteroni, Adaptive Numerical Methods for Transport Dominated Processes, in **Modelling of Flood Propagation Over Initially Dry Areas**, P.Molinaro and L.Natale, Eds., ASCE, New York, 1994, pp.114-126
- I25 - A. Quarteroni, Domain Decomposition Methods for the Incompressible Navier-Stokes Equations, in **Computational Fluid Dynamics '94**, S.Wagner et Al., Eds., pp.72-77, Wiley, New York, 1994
- I26 - C. Carlenzoli, A. Quarteroni and A. Valli, "Numerical Solution of the Navier -Stokes Equations for Viscous Compressible Flows", in **Applied Mathematics in Aerospace Science and Engineering**, A.Miele and A.Salvetti, Eds., Plenum Press, New York, 1994, pp.81-114
- I27 - A. Quarteroni, Domain Decomposition Methods for Wave Propagation Problems, in **Domain - Based Parallelism and Problem Decomposition Methods in Computational Science and Engineering**, D.E.Keyes, Y.Saad and D.G.Truhlar, Eds., S.I.A.M., Philadelphia, 1995, pp.21-38.
- I28 - A. Quarteroni, L. Stolcis, Heterogeneous Domain Decomposition for Compressible Flows, Proc. of the ICFD Conference on **Numerical Methods for Fluid Dynamics**, K.W.Morton and M.Baines, Eds., Oxford University Press, Oxford 1995, pp. 113 - 128
- I29 - G. Fotia and A. Quarteroni, Modelling and Simulation of Fluid Flow in Complex Porous Media, **ICIAM 95**, Hamburg 3-7 July, 1995, K.Kirchgässener, O. Mahrenholtz, R. Mennicken, Eds., Akademie Verlag, Berlin, 1996, pp. 55-85
- I30 - A. Quarteroni and A. Valli (1996), Domain Decomposition Methods for Partial Differential Equations, **von Karman Lecture Series 1996-06**, H.Deconinck Ed., pp.1-90
- I31 - L. Paglieri, A. Scheinine, L. Formaggia and A. Quarteroni, Parallel Conjugate Gradient with Schwarz Preconditioner Applied to Fluid Dynamics Problems, **Proceedings of the Parallel CFD '96 Conference** , Capri, May 20-23, 1996 Schiano P. et al.Eds, Elsevier (1997)
- I32 - A. Quarteroni, A. Veneziani, Modeling and Simulation of Blood Flow Problems J. Periaux et al. **Computational Science for the 21st Century**, J. Wiley and Sons (1997) , pp. 369-379

- I33 - F. Casadei, E. Gabellini, F. Maggio and A. Quarteroni, Wave Propagation in Complex Media by the Mortar Approximation, 4th Int. Conf. on **Mathematical and Numerical Aspects of Wave Propagation**, June 1-5, 1998, Colorado School of Mines, Golden, Colorado
- I34 - P. Gervasio, A. Quarteroni and F. Saleri, Spectral Approximation of Navier-Stokes Equations, in **Fundamental Directions in Mathematical Fluid Mechanics**, G.P. Galdi, J. G. Heywood and R. Rannacher, Eds, Birkhauser, Basel, 2000, p. 71-128
- I35 - A. Quarteroni and A. Valli, Domain Decomposition Methods for Compressible Flows, in **Error Control and Adaptivity in Scientific Computing**, H. Bulgak and C. Zenger, Eds, Kluwer, Dordrecht, 1999, pp.221-245
- I36 - A. Quarteroni, F. Saleri and A. Veneziani, Approximation of Navier-Stokes Equations via Algebraic Factorizations, in **Navier-Stokes Equations: Theory and Numerical Methods**, R. Salvi, Ed, Pitman Research Notes in Mathematics n.388, 1998, pp.322-334
- I37 - A. Quarteroni, Modelling the Cardiovascular System: a Mathematical Challenge, in **Mathematics Unlimited – 2001 and Beyond**, B. Engquist and W. Schmid, Eds., pp. 961-970, Springer-Verlag, Berlin, 2000
- I38 - L. Formaggia, F. Nobile and A. Quarteroni, A One Dimensional Model for Blood Flow: Application to Vascular Prosthesis, in Mathematical Modeling and Numerical Simulation in Continuum Mechanics, **Lecture Notes in Computational Science and Engineering**, 19, I. Babuska, P.G. Ciarlet and T. Miyoshi, Eds., Springer-Verlag, Berlin, Berlin, 2001
- I39 - P. Gervasio, J. L. Lions and A. Quarteroni, Domain Decomposition and Virtual Control for Fourth Order Problems, p.263-269 in **Domain Decomposition Methods in Science and Engineering**, XIII, N. Debit et Al Eds., CIMNE, Barcelona, 2002
- I40 - L. Formaggia, F. Nobile, A. Quarteroni, A. Veneziani and P. Zunino, Advances on Numerical Modelling of Blood Flow Problems, in **ECCOMAS 2000 Conference Proceedings**, E. Onate Ed. (CDROM, ISBN 84-89925-70-4).
- I41 - R. Pietrabissa, A. Quarteroni, G. Dubini, A. Veneziani, F. Migliavacca and S. Ragni, From the Global Cardiovascular System Hemodynamics down to the Local Blood Motion: Preliminary Applications of a Multiscale Approach, in **ECCOMAS 2000**, E. Onate Ed.
- I42 - E. Miglio, A. Quarteroni and F. Saleri, Mathematical Modelling of Free Surface Flows, in G. Galdi R. Rannacher, Eds., **Quaderni di Matematica**, "Topics in Mathematical Fluid Mechanics", in press
- I43 - A. Quarteroni, Mathematical Modelling of the Cardiovascular System, pp.839-850 in LI Tatsien Ed., Proceedings of the **International Congress of Mathematicians**, Vol.III, Higher Education Press, Beijing, 2002
- I44 - C. Canuto and A. Quarteroni, Spectral Methods, Chapter in **Encyclopedia of Computational Mechanics**, E. Stein et Al, Eds., John Wiley&Sons, 2004

- I45 - M. Discacciati and A. Quarteroni, Analysis of a Domain Decomposition Method for the Coupling of Stokes and Darcy Equations, in **Numerical Mathematics and Advanced Applications, ENUMATH 2001**, F. Brezzi et Al. Eds. , p.3-20. Springer, Milan, 2003
- I46 - A. Quarteroni, M. Sala, M. L. Sawley, N. Parolini and G. W. Cowles. Mathematical Modelling and Visualisation of Complex Three-dimensional Flows, in **Visualisation and Mathematics III**, Springer-Verlag series "**Mathematics and Visualization**", Hans-Christian Hege and Konrad Polthier (eds), pages 361-377, Heidelberg 2003.
- I47 - J. Peiro, S. J. Sherwin, K. H. Parker, V. Franke, L. Formaggia, D. Lamponi and A. Quarteroni, Numerical Simulation of the Arterial Pulse Propagation Using One-Dimensional Models, in **Wall-Fluid Interactions in Physiological Flows** , pp.1-36, M.W.Collins et al, Eds., WIT Press, Southampton, 2004.
- I48 - A. Quarteroni and L. Formaggia, Mathematical Modelling and Numerical Simulation of the Cardiovascular System, Chapter in **Modelling of Living Systems, Handbook of Numerical Analysis Series**, P.G Ciarlet et J.L. Lions Eds., Elsevier, Amsterdam, 2004.
- I49 - N. Parolini and A. Quarteroni, Numerical Simulation for Yacht Design. **Proceedings of the 6th Conference on Informatics and Mathematics, HERCMA 2003** (E.A. Lipitakis, ed.), Vol. 1, pp. 38-44, Athens, 2004.
- I50 - D. Mastalli, A. Quarteroni, P. Zunino, Modelli Matematici per l'Ottimizzazione della dialisi peritoneale, **Istituto Lombardo di Scienze e Lettere, Collezione delle Lezioni del Ciclo "Scienze e tecnologie per lo sviluppo sostenibile della societa' umana"**, anno 2002/2003, 2004 , 13 pp.
- I51 - S. Deparis, M. Discacciati, A. Quarteroni. A domain decomposition framework for fluid-structure interaction problems. **Proceedings of the third International Conference of Computational Fluid Dynamics ICCFD3**, Toronto, July 2004. C. Groth and D. W. Zingg Eds., Springer, New York, 2006. p.41-58.
- I52 - C. Leupi, E. Miglio, M. S. Altinakar, A. Quarteroni, M. Deville. A quasi 3-D finite element shallow-water flow with k-e turbulence model. **Proceedings of the 6<sup>th</sup> International Conference on Advances in Hydro-science and Engineering, ICHE**, Altinakar et al. eds. Brisbane, Australia, 2004, pp.400-410. (on CD-Rom)
- I53 - A. Quarteroni, G. Rozza, L. Dede', A. Quaini. Numerical approximation of a control problem for advection-diffusion processes. **Proceedings of the IFIP TC7 Conference**, Turin, July 2005 in **System Modeling and Optimization**, Springer, 2006. p.261-273
- I54 - A. Quarteroni and G. Rozza. Tecniche a Basi Ridotte per l'Ottimizzazione di Configurazioni di Innesto per Bypass Coronarici. **Istituto Lombardo, Accademia di Scienze e Lettere, Quaderni Incontro di Studio**, N.39, pp. 225-238, 2007.
- I55 - L. Formaggia, A. Quarteroni and A. Veneziani. The Mathematics of the Circulatory System: from Case Studies to Mathematical Modeling. In **Complex**

**Systems in Biomedecine**, A. Quarteroni, L. Formaggia and A. Veneziani Eds., Springer 2006.

I56 - A. Quarteroni. Cardiovascular Mathematics. **Proceedings of the ICM 2006 Conference**, M. Sanz-Sole, J. Soria, J. L. Varona, J. Verdera Eds., EMS 2006, Madrid, Vol I, pp. 479-512

I57 - A. Quarteroni, G. Rozza, A. Quaini. Reduced Basis Methods for Optimal Control of Advection-Diffusion Problems, in **Advances in Numerical Mathematics**, edited by W.Fitzgibbon, R.Hoppe, J.Periaux, O.Pironneau, Y.Vassilevski, Moscow, Institute of Numerical Mathematics, Russian Academy of Sciences, pp193-216

I58 - D. Mastalli, A. Quarteroni, P. Zunino. A steepest descent algorithm for control problems with switches. Application to the optimization of peritoneal dialysis. **Proceedings of the Fourth International Workshop on Scientific Computing and Applications**, June 20-23 2005, Shanghai, China, published by Science Press of China, pp. 50-62

I59 - N. Parolini and A. Quarteroni. Modelling and Numerical Simulation for Yacht Engineering. **Proceedings of the 26th Int. Symp. On Naval Hydrodynamics**, published by Strategic Analysis, Inc., Arlington, VA, USA, 2007.

I60 - A. Quarteroni. Modellistica Matematica e Calcolo Scientifico. To appear in **Enciclopedia della Scienza e della Tecnica (Treccani)**, published by Istituto dell'Enciclopedia Italiana, 2007.

I61 - M.Discacciati, P.Gervasio and A.Quarteroni, Heterogeneous mathematical models in fluid dynamics and associated solution algorithms, in **Multiscale and Adaptivity: Modeling, Numerics and Applications**, C.I.M.E. Summer School, Cetraro, Italy 2009. Editors: G. Naldi, G. Russo. Series: Lecture Notes in Mathematics, Springer, Vol. 2040, January, 2012.

I62 - I.Mazzieri, C.Smerzini, P.F.Antonietti, F.Rapetti, M.Stupazzini, R.Paolucci and A. Quarteroni, Non-conforming Spectral Approximations for the Elastic Wave Equation in Heterogeneous Media, **COMPdyn 2011, ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering**, M.Papadarakakis, N.D.Lagaros, M.Fragiadakys (eds.), Corfu, Greece, 26-28 May 2011

I63 - L.Gaudio and A.Quarteroni, Spectral element discretization of optimal control problems, in **Spectral and High Order Methods for Partial Differential Equations**, Lecture Notes in Computational Science and Engineering, Volume 76, pp. 393-401, 2011

I64 - P.Blanco, P.Gervasio and A.Quarteroni, Mortar coupling for heterogeneous partial differential equations, in **Domain Decomposition Methods in Science and Engineering, XX (DD20)**, Bank, R.; Holst, M.; Widlund, O.; Xu, J. (Eds.) Lecture Notes in Computational Science and Engineering, Vol. 91/. Springer-Verlag, Berlin, 2013, XVI, 680 p. ISBN 978-3-642-35274-4, pp. 443-450,

I65 – P.F. Antonietti and A. Quarteroni. Numerical performance of discontinuous and stabilized continuous Galerkin methods for convection-diffusion problems. In Vazquez-Cendon et al. editors, **Numerical Methods for Hyperbolic Equations**, pages 75–86, London, 2013. Taylor and Fancis Group. ISBN 978-0-415-62150-2

I66 – R. Ruiz-Baier, D. Ambrosi, S. Pezzuto, S. Rossi and A. Quarteroni Activation models for the numerical simulation of cardiac electromechanical interactions In: G.A. Holzapfel and E. Kuhl (eds.), **Computer Models in Biomechanics: From Nano to Macro**, Springer-Verlag (2013), 189-201

I67 – M.Lombardi, N.Parolini, A.Quarteroni and G.Rozza, Numerical solution of sailing boats : dynamics, FSI, and shape optimization, in **Variational Analysis and Aerospace Engineering II, Optimization and its applications**. Buttazzo, G. and Frediani, A. Eds. Springer, 2012.

I68 – M. Lombardi, M. Cremonesi, A. Giampieri, N. Parolini and A. Quarteroni, A strongly coupled fluid-structure interaction model for wind-sail simulation, *Proceedings of the 4th High Performance Yacht Design Conferenec, Auckland, NZ, 12-14 March, 2012, pp.212-221 Publisher: The Royal Institution of Naval Architects (RINA)*, ISBN: 978-1-905040-97-1.

I69 –J.Bonnemain, S.Deparis and A.Quarteroni, Connecting Ventricular Assist Device to the Aorta : a Numerical Model, in *Imagine Math – Between Culture and Mathematics*, M.Emmer Ed., Springer, pp.211-226

I70 – T.Lassila, A.Manzoni, A.Quarteroni and G.Rozza, Model reduction in fluid dynamics: challenges and perspectives, in **Reduced Order Methods for Modeling and Computational Reduction**, A.Quarteroni and G.Rozza, Eds., Springer Series MS&A, Vol. 9, 2013, pp.235-274

I71 – P.Antonietti, I.Mazzieri and A.Quarteroni, Numerical Methods for seismic risk migration strategies, in **Rendiconti dell'Accademia Nazionale dei Lincei**, Proceeding of the Conference "I Modelli Matematici", 11-12 December 2013, Rome, pp. 91-108, 2018

I72 – N.Parolini and A.Quarteroni, Sport, in **The Princeton Companion to Applied Mathematics**, N.Higham, Ed., p.598-604, Princeton University Press, 2015

I73 – L.Iapichino, A.Quarteroni, G.Rozza and S.Volkwein, Reduced basis method for Stokes equations in decomposable domains using greedy optimization, in **ECMI 2014**

I74 –P.F.Antonietti, I.Mazzieri and A.Quarteroni, Improving seismic risk protection through mathematical modeling, in **Imaging Maths. Between culture and mathematics: 4**, M. Emmer, M. Abate, M. Villarreal Editors, pp. 271-282, 2015.

I75 – Lange M., Palamara S., Lassila T., Vergara C., Quarteroni A., Frangi A.F., Efficient Numerical Schemes for Computing Cardiac Electrical Activation over Realistic Purkinje Networks: Method and Verification, in **"Functional Imaging**

**and Modeling of the Heart'**, Proceedings of the 8th International Conference, FIMH 2015, van Assen, Hans, Bovendeerd, Peter, Delhaas, Tammo (Eds.), Springer, pp. 430-438, 2015

I76 – S.Deparis, D.Forti and A. Quarteroni, A fluid-structure interaction algorithm using radial basis function interpolation between non-conforming interfaces, in **Advances in Computational Fluid Structure**, Eds. Y.Bazilevs, K.Takizawa, Springer, 439-450, 2016

I77 – P.Antonietti, A.Ferroni, I.Mazzieri and A.Quarteroni, *hp*-version discontinuous Galerkin approximations of the elastodynamics equation, in Bittencourt M., Dumont N., Hesthaven J. (eds) **Spectral and High Order Methods for Partial Differential Equations ICOSAHOM 2016**. Lecture Notes in Computational Science and Engineering, vol 119. Springer, Cham

I78 – P.Gervasio and A.Quarteroni, **INTERNODES for elliptic problems**, in **Domain Decomposition Methods in Science and Engineering XXIV (DD24)**, pp. 347-356. Lecture Notes in Computational Science and Engineering, Vol. 125 <https://www.springer.com/it/book/9783319938721>. Springer International Publishing. DOI: 10.1007/978-3-319-93873-8\_32 [http://dx.doi.org/10.1007/978-3-319-93873-8\\_32](http://dx.doi.org/10.1007/978-3-319-93873-8_32)

I79 – P.Gervasio and A.Quarteroni, **INTERNODES for heterogeneous coupling**, in **Domain Decomposition Methods in Science and Engineering XXIV (DD24)**, pp. 61-73. Lecture Notes in Computational Science and Engineering, Vol. 125 <https://www.springer.com/it/book/9783319938721>. Springer International Publishing. DOI: 10.1007/978-3-319-93873-8\_5 [http://dx.doi.org/10.1007/978-3-319-93873-8\\_5](http://dx.doi.org/10.1007/978-3-319-93873-8_5)

I80 – N. Dal Santo, A. Manzoni, S. Pagani, and A. Quarteroni, Reduced order modeling for applications to the cardiovascular system, MOR Handbook, P.Benner et Al. Eds., De Gruyter, 2019, submitted

### C. Conference Proceedings: Contributed Papers

- C1 -F. Gastaldi, A. Quarteroni and G. Sacchi-Landriani, "Effective Methods for the Treatment of Interfaces Separating Equations of Different Character", pp. 65-74 in **Computers and Experiments in Fluid Flow**, G. M. Carlomagno and C. A. Brebbia Eds., Computational Mechanics Publications, Springer, Berlin, 1989.
- C2 -F. Gastaldi, A. Quarteroni and G. Sacchi-Landriani, "Coupling of two-dimensional hyperbolic and elliptic equations", **Spectral and High Order Methods for Partial Differential Equations**, C. Canuto and A. Quarteroni, Eds., Elsevier, Amsterdam, 1990, pp.347-354.

- C3 -C. Carlenzoli, A. Quarteroni and A. Valli, "Spectral Domain Decomposition Methods for Compressible Navier-Stokes Equations", in **Domain Decomposition Methods for Partial Differential Equations, V**, D.Keyes et AL., Eds., SIAM, Philadelphia, 1992, 441-450
- C4 -V. I. Agoshkov, A. Quarteroni, F. Saleri, "Modified Finite Element Approximation to Shallow Water Equations and Stability Results", in **Finite Elements in Fluids, part II**, K Morgan et Al., Eds., Pineridge Press, 1993, 1020-1025
- C5 -M. Azaiez and A. Quarteroni, A Spectral Stokes Solver in Domain Decomposition Methods in **Domain Decomposition Methods in Scientific and Engineering Computing, VII**, D.E.Keyes and J.Xu, Eds., AMS, Providence, 1995, 151-156
- C6 -S. Micheletti, A. Quarteroni and R.Sacco, Non Linear Block Iterative Solution of Semiconductor Device Equations by a Domain Decomposition Method, in **Domain Decomposition Methods in Scientific and Engineering Computing, VII**, D.E.Keyes and J.Xu, Eds., AMS, Providence, 1995, 525-532
- C7 -E. Faccioli, A. Quarteroni, A. Tagliani, Spectral multi domain methods for the simulation of wave propagation in heterogeneous media, in **Domain Decomposition Methods for Partial Differential Equations, VI**, A. Quarteroni, J.Periaux, Yu.A.Kuznetsov, O.Widlund, Eds. AMS, Providence, 1994, pp. 447-456
- C8 -F. Gastaldi, L. Gastaldi, A. Quarteroni, The ADN and ARN Domain Decomposition Methods for Advection Diffusion Equations, **DD9 Proceedings**, P.Bjorstad, M. Espedal and D. Keyes Editors, H.Wiley, 1997, pp. 334-341
- C9 -L. Fatone, P. Gervasio and A. Quarteroni, Iterative methods of multimodels for incompressible flows, **Enumath 99 - Proceedings of the 3rd European Conference on Numerical Mathematics and Advanced Applications**, Jyväskylä, Finland, July 26-30, 1999, P. Neittanmäki, T. Tiihonen and P. Tarvainen Eds., World Scientific, Singapore, 2000, pp. 470-477
- C10 - A. Quarteroni, A. Veneziani and P. Zunino, Numerical investigation of transport and absorption phenomena of blood solutes, in **18th UIT National Heat Transfer Conference**, A.Niro et Al., Eds., ETIS, Pisa, 2000, pp. 955-966

## R. Internal Scientific Reports

- R1 -A. Quarteroni, "Implementation of primal hybrid finite element methods and associated numerical problems", **Report n.211, Istituto di Analisi Numerica del C.N.R., Pavia** (1979).
- R2 -A. Quarteroni, "Hybrid finite element approximation of elliptic boundary value problems", **Sonderforschungsbereich 72 - Approximierung und Optimierung n. 255, Universitaet Bonn** (1979).



- R3 -F. Brezzi, C. Chinosi, L. Della Croce, L. D. Marini, A. Quarteroni, G.Sacchi and T. Scapola, "Recent developments on non-standard finite element methods", **Report n.199, Istituto di Analisi Numerica del C.N.R., Pavia** (1979).
- R4 -A. Quarteroni and T. Scapolla, "Implementation of Hellan-Herrmann-Johnson mixed method with rectangular decomposition", and L. D. Marini and A. Quarteroni, "Implementation of two equilibrium finite elements for plate bending problems", **Report n.231, Istituto di Analisi Numerica del C.N.R., Pavia** (1979).
- R5 -C. Canuto and A. Quarteroni, "Numerical Analysis of Spectral Methods for Partial Differential Equations", **Report n.418, Istituto di Analisi Numerica del C.N.R., Pavia** (1984).
- R6 -P. Consonni, G. Fotia, S. Mantica, A. Quarteroni, A. Rosella, Blending Finite Elements and Finite Volumes for the Solution of Miscible Incompressible Flow, **ECMOR - European Conference Mathematics in Oil Recovery**, June 1994
- R7 -P. Zunino, D. Mastalli, A. Quarteroni, F. Neftel, J. P. Wauters Development of a new mathematical approach to optimize peritoneal dialysis, **Série d'Analyse et Analyse Numérique**, Département de Mathématiques, EPFL, No.11, 2004.
- R8 - M. de Luca, D. Ambrosi, A.M.Robertson, A.Veneziani, A.Quarteroni: Finite element analysis for a multi-mechanism damage model of cerebral arterial tissue, **MOX Report**, 2011

### P. Papers for Popularization of Mathematics

- P1 -A. Quarteroni, La modellistica matematica e la fluidodinamica: una sintesi tra teoremi e mondo reale, **Bollettino UMI, sez.A, Vol.3**, 1998.
- P2 -A. Quarteroni, Modeling the Cardiovascular System – A Mathematical Adventure, **SIAM News 34 (5)**, 2001 (Part I) and **SIAM News 34 (6)**, 2001 (Part II).
- P3 -A. Quarteroni, Modellistica matematica per il sistema cardiovascolare, **Leadership Medica 10/2004**.
- P4 -A. Quarteroni, Modellistica Matematica e Calcolo Scientifico, un binomio per la simulazione, la progettazione e l'innovazione, to appear in **C.I.M.E. Lectures Notes in Mathematics**, special issue for the 50th anniversari of C.I.M.E., 2005.
- P5 -A. Quarteroni, Modellistica matematica per la progettazione, la simulazione e l'innovazione, **Rendiconti Istituto Lombardo di Scienze e Lettere**, 2004 (text of the Lecture opening the 201st Academic Year).
- P6 -A. Quarteroni, A new mathematical approach to optimize peritoneal dialysis, in **Leader for Chemist 01/2005**.

- P7 - N. Parolini, A. Quarteroni, Quando la Matematica va in barca, **Matematica e Cultura** 2004, M. Emmer Ed, 2004, Springer Italia, pp. 207-213.
- P8 - G. Fourestey, N. Parolini, A. Quarteroni, G. Rozza. Matematica in Volo. **Matematica e Cultura** 2006, M.Emmer Ed., 2006, Springer Italia, pp. 35-48.
- P9 - A. Quarteroni, L. Bonaventura, L. Dede', E. Miglio, A. Quaini, M. Restelli, G. Rozza, F. Saleri. Modellistica Matematica in Problemi Ambientali, **Rendiconti Istituto Lombardo**, Accademia di Scienze e Lettere, 2006.
- P10 - A. Quarteroni, Formule di Salute, in **Medici Oggi**, anno X, n.5, 2006, p.248-249.
- P11 - N. Parolini, A. Quarteroni, When Mathematics goes to Sea (in the America's Cup), **Mathematics and Culture** 2006, M. Emmer Ed, Springer-Heidelberg
- P12 - L. Bonaventura, A. Quarteroni, I modelli matematici per la previsione meteorologica, **Matematica e Cultura** 2007, M. Emmer Ed., Springer-Italia, Milano.
- P13 - G. Fourestey, N. Parolini, C. Prud'homme, A. Quarteroni, G. Rozza. Mathematics in the Air with Solar Impulse. **Mathematics and Culture** 2007, M. Emmer Ed., Springer-Heidelberg.
- P14 - A. Quarteroni. La Deriva di un Paese senza Vocazione Scientifica. **BPI Magazine**, 17, 2006, pp. 26-28
- P15 - A. Quarteroni. Una Congettura Lunga un Secolo. **BPI Magazine**, 18, 2006, pp. 38-42
- P16 - A. Quarteroni. Il Tempo che Sarà. **BPI Magazine**, 19, 2007, pp. 50-55
- P17 - A. Quarteroni. Eulero, 300 Anni e non Accorgersene. **BPI Magazine**, 20, 2007, pp. 58-61
- P18 - A. Quarteroni. Paradigma Pechino: Transizione e Contraddizioni fra Medioevo e Futuro, **BPI Magazine**, 21, 2007, pp. 32-35
- P19 - A. Quarteroni. Lezioni Americane, **La Rivista del Banco Popolare**, 2008, vol I, pp 68-72
- P20 - A. Quarteroni. Engineering the Body, **La Rivista del Banco Popolare** 2008, vol II, pp 86-90
- P21 - A. Quarteroni, Mathematics in the Wind, **SIAM series "WhyDoMath"**, 2008, <http://dev.whynomath.org/node/americascup/index.html>
- P22 - A. Quarteroni, Mathematics for Sports, **Zurich Intelligencer**, International Congress on Industrial and Applied Mathematics, Zurich 2007, pp 16-21
- P23 - A. Quarteroni. Galileo Galilei fra Cielo e Terra, **La Rivista del Banco Popolare**, 2009, Vol III, 2009, pp 68-72

- P24 - A.Quarteroni. Cambridge e Oxford, La Tradizione Ostentata, **La Rivista del Banco Popolare**, Vol IV, 2009, pp 88-90
- P25 - A.Quarteroni. Google, ovvero come cercare (e trovare) l'ago nel pagliaio, **La Rivista del Banco Popolare**, Vol V, 2010, pp 74-78
- P26 - A.Quarteroni. KAUST, un campus universitario avveniristico in Arabia Saudita, **La Rivista del Banco Popolare**, Vol VI, 2010, pp 92-94
- P27 - C.D'Angelo, L.Pagliari e A. Quarteroni. Google, come cercare (e trovare) un ago in un pagliaio, **Matematica e Cultura** 2011, M. Emmer Ed, 2011, Springer Italia, pp. 111-122.
- P28 - A.Quarteroni. L'energia, l'uomo, l'ambiente. Grandi soluzioni per grandi problemi, **La Rivista del Banco Popolare**, Vol VII, 2011, pp 68-72