CURRICULUM VITAE E STUDIORUM

LOURENÇO BEIRÃO DA VEIGA

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CURRICULUM STUDIORUM

CAREER PATH

• Master graduate in Math, date 15/03/2000, University of Pavia (mark 110/110 cum laude), advisors Prof. F. Brezzi and Prof. G. A. Pozzi.

• PhD in Mathematics in May 2004 (Instituto Superior Tecnico of Lisbon), advisors Prof. A. Sequeira (Instituto Superior Tecnico, Lisbon) and Prof. F. Brezzi (IMATI-CNR di Pavia)

• PhD in Mathematics the 28 February 2005, (University of Pavia), thesis title *Theoretical and Numerical Analysis of some Thin Structures and Nonlinear Elasticity Problems*, advisor F. Brezzi.

• From 03 January 2005 to 31 October 2010 **assistant Professor in Numerical Analysis** at the Department of Mathematics "F.Enriques", Via Saldini 50, Milano.

• From 1 November 2010 to 31 October 2015 **associate Professor in Numerical Analysis** at the Department of Mathematics "F.Enriques", Via Saldini 50, Milano.

CURRENTLY

Since 1 November 2015 **Full Professor in Numerical Analysis** at the Department of Mathematics and Applications, University of Milano-Bicocca, Via Cozzi 25, Milano.

PRIZES AND AWARDS

• Prize **Cariplo** for the best graduates of Pavia, year 2000.

• Prize **Proff. Silvio Cinquini e Maria Cibrario Cinquini** for the best graduation theses in Pavia, year 2000.

• Prize for **best PhD thesis in Applied an Computational Mechanics** in Portugal, year 2004, yielded by APMTAC (Assoçiaçao Portuguesa de Mecânica Teórica, Aplicada e Computacional).

• Prize for **best PhD thesis in Applied Mathematics**, year 2005, awarded by **SIMAI** (Società Italiana Matematica Applicata e Industriale).

• Local leader of the excellence fund FIRB - Futuro in Ricerca, code RBFR08CZ0S (national leader G. Sangalli), duration of 4 years starting in 2010

• Principal Investigator of an **ERC GRANT CONSOLIDATOR**, code 681162 (budget 980K euro), acronym CAVE, duration of 5 years starting in July 2016.

• Prize **Jacques Louis Lions Award** 2016 of the ECCOMAS, awarded every 2 years to researchers under 40 years of age for *outstanding contributions* in the field of computational math.

• **National leader (PI)** of a grant PRIN 2017 "Virtual Element Methods: Analysis and Applications", budget 559K euros (2019–2022)

• **Highly Cited Researcher** (Web of Science) for the years: **2019**, **2020**, **2021**, **2022**

• Multiple invitations to **plenary and keynote** lectures at international congresses (see the section below)

• Title of **"Cavaliere" della Repubblica Italiana**, awarded by the italian President for scientific merits (2021)

• Principal Investigator of an **ERC GRANT SYNERGY**, (my budget 1327K euro), acronym NEMESIS, duration of 6 years starting in January 2024.

INVITED TALKS
(with participation in any attached conferences)

1. Seminar *Energy Behavior of Two Classical Benchmark Shells*, part of the seminar series **Applied Mathematics and Numerical Analysis**, Instituto Superior Técnico, Lisbon, April 10, 2003.

2. Seminar *Intermediate States in Koiter Shells: Energy Behavior of Two Intermediate Benchmarks*, **Helsinki University of Technology**, March 29, 2004.

3. Presentation *Stability Study of Nonlinear Finite Elements in Elasticity* on June 22 during the **GIMC2004 Conference**, Genoa, June 21-23, 2004.

4. Presentation *Enhanced Strain Methods for Elasticity Problems* on July 26 during the **ECCOMAS2004 Conference**, Jyväskylä, Finland, July 24-28, 2004.

5. Seminar *Exponential Methods for von Mises Plasticity with Linear Hardenings*, **Helsinki University of Technology**, September 19, 2004.

6. Seminar *Exponential Methods for von Mises Plasticity with Linear Hardenings*, **I.C.E.S.**, Austin, Texas, January 25, 2005.

7. Presentation *Exponential Methods for von Mises Plasticity with Linear Hardenings* on February 21, 2005, during the **GNCS Conference**, Milan, February 21-22, 2005.

8. Seminar *Isogeometric Analysis with NURBS*, at the **Department of Mathematics "F.Casorati"**, Milan, March 8, 2005.

9. Seminar *A Family of C^0 Finite Elements for Kirchhoff Plates with Free Boundary Conditions*, **Helsinki University of Technology**, October 3, 2005.

10. Seminar *Isogeometric Analysis with NURBS*, **I.N.R.I.A.-Roquencort** (Paris), February 1, 2006.

11. Presentation *On the Stability of Some Finite Element Schemes for Large Deformation Incompressible Elasticity* on May 26, 2006, as part of the Minisymposium M34 at the **SIMAI 2006 Congress**, May 22-26, 2006, Province of Ragusa.

12. Presentation *A Family of C^0 Finite Elements for Kirchhoff Plates with General Boundary Conditions* on May 26, 2006, as part of the Minisymposium M34 at the **SIMAI 2006 Congress**, May 22-26, 2006, Province of Ragusa.

13. Presentation *Isogeometric Analysis with NURBS from the Theoretical Perspective* on July 21, 2006, as part of the Minisymposium "Computational Analysis and Geometry" at the **World Congress on Computational Mechanics 2006**, July 16-21, 2006, Los Angeles.

14. Seminar *Asymptotic Energy Analysis of Shell Eigenvalue Problems* on September 19, 2006, at the **Multiscale INdAM Workshop 2006**, September 18-22, 2006, Cortona.

15. Presentation *A Stabilized MITC6 Triangular Shell Element* on October 26, 2006, at the **European Conference on Smart Systems**, October 26-28, 2006, Rome.

16. Presentation *Asymptotic Analysis of Shell Vibration and Related Numerical Hazards* on May 17, 2007, at the **International Workshop on High-Order FEM**, May 17-19, Herrsching am Ammersee (Munich).

17. Presentation *A Fully Locking Free Isogeometric Approach to Linear Elasticity* on July 23, 2007, at the **US National Congress on Computational Mechanics 9**, July 23-26, 2007, San Francisco.

18. Extended presentation (30 minutes) *A Local Error Estimator for the Mimetic Finite Difference Method* on September 26, 2007, at the **XVIII Congress of the Italian Mathematical Union**, September 24-29, 2007, Bari.

19. Seminar *Isogeometric Analysis with NURBS*, **Helsinki University of Technology**, November 5, 2007.

20. Seminar *Asymptotic Analysis of the Shell Eigenvalue Problem*, **Helsinki University of Technology**, November 20, 2007.

21. Presentation *An A Posteriori Error Estimator for the Mimetic Finite Difference Method* on July 10, 2008, at the **Austin-Lisbon CFD 2008: 1st Workshop on Computational Engineering: Fluid Dynamics**, July 10-11, 2008, Lisbon.

22. Presentation *Galerkin Approximation for Incompressible Elasticity Problems - Part II: NURBS-Based Approximations* on September 16, 2008, at the **SIMAI 2008 Congress**, September 15-19, 2008, Rome.

23. Seminar *An A Posteriori Error Estimator for the Mimetic Finite Difference Method*, **Helsinki University of Technology**, January 19, 2008.

24. Presentation *A Mimetic Finite Difference Method for the Stokes Problem* on June 9, 2009, at **MAFELAP 2009**, June 9-12, 2009, London.

25. Presentation *A Mimetic Finite Difference Method for the Stokes Problem* on July 17, 2009, at the 10th US National Congress on Computational Mechanics, July 16-19, 2009, Columbus, Ohio.

26. Seminar *Asymptotic Analysis of the Shell Eigenvalue Problem*, **Los Alamos National Laboratory**, August 3, 2009.

27. Presentation *A Higher Order Mimetic Finite Difference Method for the Diffusion Problem* on January 12, 2010, at **WONAPDE 2010**, January 11-15, 2010, Concepcion, Chile.

28. Presentation *Robust BDDC Preconditioners for Reissner-Mindlin and Naghdi Thin Structure Problems* on June 18, 2010, at **Adaptive FE and Domain Decomposition Methods**, June 17-19, 2010, Milan.

29. Presentation *Mimetic Discretization of the Diffusion Problem: A Higher Order Method and A Posteriori Error Estimates* on July 1, 2010, at the **Workshop on Non-standard Numerical Methods for PDE**, June 29-July 2, 2010, Pavia.

30. Seminar *Domain Decomposition by BDDC of MITC Elements for Plate and Shell Problems*, **Helsinki University of Technology**, September 27, 2010.

31. Presentation *Isogeometric Analysis for T-Spline Geometries of Merged Patches* on January 14, 2011, at the **IGA 2011 Workshop**, January 13-16, 2011, Austin, Texas.

32. Presentation *Approximation Properties of Mapped NURBS Spaces* on June 28, 2011, at the **HOFEIM 2011 Workshop**, June 27-30, 2011, Cracow, Poland.

33. Presentation *An Arbitrary Order Mimetic Discretization Method* on September 8, 2011, at **ENUMATH 2011**, September 5-9, 2011, Leicester, UK.

34. Seminar *An Introduction to Isogeometric Analysis with Focus on Approximation Estimates* on September 13, 2011, Universidad del Bio-Bio, Concepcion, Chile.

35. Presentation *Mimetic Discretizations of Arbitrary Local Order and Regularity* on December 14, 2011, at the **Journées Lions-Magenes Workshop**, December 14-15, 2011, Paris, France.

36. Presentation *Domain Decomposition Methods in Isogeometric Analysis* on February 10, 2012, at **HONAPDE 2012**, February 6-10, 2012, Bonn, Germany.

37. Seminar *T-splines of Arbitrary Polynomial Degree* on June 18, 2012, at the **CIME School** on Isogeometric Analysis, June 18-22, 2012, Cetraro.

38. Presentation *BDDC Preconditioners for Isogeometric Analysis* on June 25, 2012, at the **21st International Conference on Domain Decomposition Methods**, June 25-29, 2012, Rennes, France.

39. Presentation *Domain Decomposition Methods in Isogeometric Analysis* on September 10, 2012, at **ECCOMAS 2012**, September 10-14, 2012, Vienna, Austria.

40. Seminar *Basic Principles of Virtual Element Methods*, October 2012, Department of Mathematics, Trento, Italy.

41. Presentation *A Virtual Element Method with High Regularity* on February 27, 2013, at **Advances in Computational Mechanics**, February 24-27, 2013, San Diego, California.

42. Presentation *A Virtual Element Method with High Regularity*, **MAFELAP**, London, UK, June 11-14, 2013.

43. Seminar *AS T-splines of Arbitrary Degree*, June 21, 2013, RICAM, Linz, Austria.

44. Extended seminar (2 hours) as an instructor at the **NIMS Summer School on Isogeometric Analysis**, Daejeon, Korea, July 10-12, 2013.

45. Plenary Seminar **Domain decomposition methods in isogeometric analysis**, Conference **DD22** (Int. Conf. on Domain Decomposition Meth.), Lugano (Switzerland), September 16-20, 2013.

46. Plenary Seminar **An introduction to the Virtual Element Method**, Conference **Valparaiso Numerico**, Valparaiso (Chile), December 11-13, 2013.

47. Seminar *An introduction to the Virtual Element Method*, Department of Civil and Environmental Engineering, University of Illinois (Urbana-Champaign), February 12, 2014.

48. Seminar *An introduction to the Virtual Element Method*, Mox, Politecnico di Milano (Italy), April 15, 2014.

49. Plenary Seminar **An introduction to Virtual Elements** on July 12, 2014, **Building Bridges: Conn. and Chall. in Mod. Approaches to Num. PDE**, Durham (UK), July 8-16, 2014.

50. Presentation *A locking-free Virtual Element Method for linear elasticity* on July 24, 2014, **WCCM XI**, Barcelona (Spain), July 21-25, 2014.

51. Seminar *An introduction to Virtual Elements* on November 17, 2014, Department of Mathematics, University of Bari.

52. Seminar *An introduction to the Virtual Element Method* on February 19, 2015, Department of Engineering, University of Cassino.

53. Plenary Seminar **Compatible Virtual Element Spaces** on April 13, 2015, **Journees Lions-Magenes**, Pavia (Italy), February 13-14, 2015.

54. Seminar *Virtual Elements: introduction and some developments* on June 3, 2015, **Scientific Computing and Mathematical Models**, Genoa (Italy), June 3-5, 2015.

55. Presentation *A Virtual Element Method for the Cahn-Hilliard equation* at **Xdms-2015**, Ferrara (Italy), September 9-11, 2015.

56. Plenary Seminar **An introduction to Virtual Elements with a focus on fluid flows** at **SIMRACE 2015**, Paris (France), December 8-10, 2015.

57. Seminar *Virtual Elements: introduction and some developments* on January 13, 2016, Department of Mathematics, University of Oldenburg.

58. Presentation *Virtual elements for the Stokes problem* at **ECCOMAS**, Crete (Greece), June 5-10, 2016.

59. Plenary Seminar **Introduction and some recent advances on the Virtual Element method** at **ECCOMAS**, Crete (Greece), June 5-10, 2016.

60. Presentation *Divergence-free Virtual Elements for the Stokes problem* at **MAFELAP**, London (UK), June 14-17, 2016.

61. Seminar *An introduction to Virtual Elements* on July 26, 2016, Department of Mathematics, University of Salerno.

62. Two-lecture series *An introduction to Virtual Elements* at the summer school **Advanced Numerical Methods for Partial Differential Equations**, Cargese (Corsica), September 5-9, 2016.

63. Seminar *Divergence-free Virtual Elements for the Stokes problem* on October 14, 2016, Department of Structural Mechanics, Politecnico di Milano.

64. Seminar *An introduction to Virtual Elements with a focus on Mechanics* on December 1, 2016, Solid Mechanics Stanford Seminar Series, Stanford (California, USA).

65. Plenary Seminar **Virtual Elements for the Stokes and Navier-Stokes equation** at the **19th Int. Conf. on Finite Elements in Flow Problems**, Rome, April 5-7, 2017.

66. Presentation *A first approach to Virtual Elements for magnetostatic problems* at **Foundations of Computational Math**, Barcelona (Spain), July 10-19, 2017.

67. Plenary Seminar **Virtual Elements for Magnetostatic Problems** at **ENUMATH 2017**, Voss (Norway), September 25-29, 2017.

68. Presentation *The Virtual Element Method with curved edges* at the **Workshop Change**, Leysen (Switzerland), January 31 - February 2, 2018.

69. Seminar *Virtual Elements for Magnetostatic Problems* on April 10, 2018, Institute of Analysis and Scientific Computing, Technische Universitat, Vienna (Austria).

70. Plenary Seminar **Introducing Virtual Elements for incompressible fluid problems** at **SDS2018**, Monopoli, June 12-15, 2018.

71. **Instructor** at the Dobbiaco Summer School *Theory and Practice of the Virtual Element Methods*, Dobbiaco, June 17-22, 2018.

72. Keynote Presentation in Minisymposium *The Virtual Element Method with curved edges* at the **European Solid Mechanics Conference**, Bologna, July 2-6, 2018.

73. Seminar *An introduction to Virtual Elements in 3D* on September 17, 2018, Georgia Institute of Technology (Atlanta, USA).

74. Seminar *An introduction to Virtual Elements in 3D* on October 17, 2018, ZHACM Colloquium (ETH Zurich).

75. Seminar *An introduction to Virtual Elements in 3D* on November 27, 2018, University of Maryland (College Park, USA).

76. Plenary Seminar **An introduction to Virtual Elements in 3D** at **WONAPDE 2019**, Concepcion (Chile), January 21-25, 2019.

77. Plenary Seminar **An introduction to Virtual Elements with focus on Structural Mechanics** at the **RCM 2019** Workshop, Hannover (Germany), March 20-22, 2019.

78. Plenary Seminar **Introducing Virtual Elements in 3D** at the **Modern Finite Element Technologies 2019** Workshop, Bad Honnef (Germany), July 1-3, 2019.

79. Presentation *Virtual Elements for the Stokes and Navier-Stokes equations in 2D* at **ENUMATH 2019**, Egmond aan Zee (Netherlands), September 30 - October 4, 2019.

80. Instructor for an online **streaming PhD course** for Northwestern Polytechnic University in Xi'an (China) titled *A course on Virtual Elements*, September 14-18, 2020.

81. Online presentation *Some recent interpolation and stability estimates for virtual elements* at the *Nonstandard Finite Element Methods* Workshop, **Oberwolfach** (Germany), January 10-16, 2021.

82. Online presentation *Virtual Elements with curved faces in 2D* at **WCCM-ECCOMAS 2021**, Paris (France), January 11-15, 2021.

83. Online seminar *An introduction to Virtual Elements in 3D* at the RANAPDE Workshop, Milan (Italy), June 24-25, 2021.

84. Online presentation *Convection-robust SUPG Virtual Elements* at **ICOSAHOM 2021**, Vienna (Austria), July 12-16, 2021.

85. Instructor for the mini-course *Introduction to Virtual Elements* at the workshop **SDS 2022**, Bari (Italy), June 7-10, 2022.

86. Presentation *Equilibrium analysis of an immersed rigid leaflet with virtual elements* at the workshop **PICNDEA**, Evora (Portugal), July 4-6, 2022.

87. Keynote presentation *A Virtual Element Stokes Complex* at the 22nd IACM Computational Fluids Conference, Cannes (France), April 25-28, 2023.

88. Plenary seminar *Virtual Element Complexes of general order* at the ICOSAHOM Conference, Seoul (Korea), August 14-18, 2023.

89. Instructor for a **CISM Advanced Course** titled *Virtual elements for problems in mechanics*, Udine (Italy), October 20-24, 2023.

90. Lecture *An introduction to Virtual Elements in Solid Mechanics* at the online school **International Workshop on Virtual Element Analysis: Scientific Computation and Applications**, 10-11 January, 2024.

91. Presentation *A deeper investigation on VEM accuracy: the role of bulk and boundary approximations* at the Congress **Wonapde 2024**, Concepcion (Chile), January 15-19, 2024.

92. Two long lectures on Virtual Elements within the Workshop **Structural Dynamical Systems 2024**, Monopoli (Italy), June 11-14, 2024.

93. Keynote presentation *Convection robust elements in Magnetohydrodynamics* at the workshop **NEMESIS Kick-off Meeting**, Montpellier (France), June 19-21, 2024.

94. Plenary seminar *Virtual Element complexes of general order and application to Magnetohydrodynamics* at the POEMS workshop, Paris (France), December 3-6, 2024.

95. Seminar *An introduction to Virtual Elements in 3D* at the KAUST (Saudi Arabia), 29 January , 2024.

96. Keynote presentation *Robust Finite and Virtual Elements for non-stationary resistive Magnetohydrodynamics* at the workshop NumPDE, KAUST (Saudi Arabia), 27-29 January, 2024.

OTHER COMMUNICATIONS
(with participation in any attached conferences)

• Two informal seminars with the title: *A new numerical method for Von-Mises plasticity with linear hardening* in the context of the **Meetings on Applied Mathematics** at the Department of Mathematics in Pavia (6th and 13th March 2003).

• Invited talk *On a new numerical method for Von-Mises plasticity with linear hardening* on 16th July 2003 during the conference **Advanced School and Workshop on Modeling and Numerical Simulation in Continuum Mechanics**, Coimbra 14th-18th July 2003.

• Invited talk *Numerical and theoretical evaluation of the asymptotic behavior of the energy of two intermediate "benchmark" shells*, on 10th September during the **UMI Conference** in Milan, 8th-13th September 2003.

• Invited talk *Finite elements enhanced in linear and nonlinear elasticity*, on 10th February during the **GNCS2004 Conference**, Montecatini, 9th-11th February 2004.

• Invited talk *Isogeometric analysis with NURBS* within the **Finite Element Fair**, 3rd-4th June 2005, Pavia.

• Invited talk *A family of C^0 finite elements for Kirchhoff plates with free boundary conditions* on 19th July 2005, within the congress **ENUMATH 2005**, 18th-22nd July 2005, Santiago de Compostela.

• Invited talk *A posteriori error estimates for the MFD method*, on 5th February 2008, **Biennial GNCS Conference**, 4th-6th February 2008, Montecatini Terme.

• Invited talk *A BDDC preconditioner for the Reissner-Mindlin plate bending problem*, on 4th July 2008, **World Congress on Computational Mechanics 2008**, 30th June - 4th July 2008, Venice.

ATTENDEE AT SCHOOLS AND OTHER CONFERENCES

• Summer School **Multiscale Problems in Nonlinear Analysis**, Pittsburgh, USA, 31st May-9th June 2001.

• Summer School **Simulation of Fluid and Structure Interaction**, Prague, Czech Republic, 19th-29th August 2001.

• Summer School **Wavelets**, Cortona, Italy, 22nd July-9th August 2002.

• Summer School **Numerical Analysis**, Cortona, Italy, 10th-30th August 2003.

• Conference **School on Modeling, Control and Numerical Simulation of Smart Systems**, part of the European project "New Materials, Adaptive Systems and their Nonlinearities; Modeling Control and Numerical Simulations", Pavia, Italy, 15th-19th September 2003.

• Conference **School on Nonlinear and Contact Mechanics**, part of the European project "New Materials, Adaptive Systems and their Nonlinearities; Modeling Control and Numerical Simulations", Helsinki, Finland, 21st-23rd July 2004.

• Conference **Mathematical Physics and PDEs**, Levico (Trento), Italy, 6th-11th September 2009.

• Summer School **Dobbiaco Summer School: DG Methods, Theory and Applications**, Dobbiaco (Bolzano), Italy, 21st-25th June 2010.

• Attendee at the workshop *Hilbert Complexes: Analysis, Applications, and Discretizations*, Oberwolfach, 19th-25th June (2022).

SCIENTIFIC PERIODS ABROAD

• One-month stay (April 2004) at the **Helsinki University of Technology**, as part of the European project "New materials, adaptive systems and their nonlinearities. Modelling, control and numerical simulations," invitation by Prof. R. Stenberg.

• Three-month stay (September-November 2004) at the **Helsinki University of Technology**, as part of the European project "New materials, adaptive systems and their nonlinearities. Modelling, control and numerical simulations," invitation by Prof. R. Stenberg.

• Two-week stay (January 2005) at the **I.C.E.S.**, Austin, Texas, as part of the J. Tinsley Oden Faculty Fellowship Program, invitation by Prof. T.J.R. Hughes.

• Two-and-a-half-month stay (15 September - 30 November 2005) at the **Helsinki University of Technology**, as part of the European project "New materials, adaptive systems and their nonlinearities. Modelling, control and numerical simulations," invitation by Prof. R. Stenberg.

• Two-month stay (3 January - 26 February 2006) at the **I.N.R.I.A.-Roquencort** (Paris), as part of the European project "New materials, adaptive systems and their nonlinearities. Modelling, control and numerical simulations," invitation by Prof. D. Chapelle.

• One-and-a-half-month stay (27 August - 9 September 2006, 27 September- 25 October 2006) at the **I.N.R.I.A.-Roquencort** (Paris), as part of the European project "New materials, adaptive systems and their nonlinearities. Modelling, control and numerical simulations," invitation by Prof. D. Chapelle.

• Two-week stay (August 2007) at the **I.C.E.S.**, Austin, Texas, as part of the J. Tinsley Oden Faculty Fellowship Program, invitation by Prof. T.J.R. Hughes.

• Three-week stay (November 2007) at the **Helsinki University of Technology**, invitation by Prof. Reijo Kouhia.

• Two-week stay (January 2009) at the **Helsinki University of Technology**, invitation by Prof. Rolf Stenberg.

• Two-week stay (July 2009) at the **I.C.E.S.**, Austin, Texas, invitation by Prof. T.J.R. Hughes.

• Two-week stay (July-August 2009) at the **Los Alamos National Laboratory - Theoretical Division**, New Mexico, invitation by Dr. K. Lipnikov.

• Two-week stay (January 2010) at the **Universidad de Concepcion**, Chile, invitation by Prof. R. Rodrigues.

• Two-week stay (July 2010) at the **Los Alamos National Laboratory - Theoretical Division**, New Mexico, invitation by Dr. K. Lipnikov.

• Two-week stay (January 2011) at the **I.C.E.S.**, Austin, Texas, invitation by Prof. T.J.R. Hughes.

• One-week stay (August 2011) at the **Helsinki Aalto University**, invitation by Prof. Rolf Stenberg and Dr. J. Niiranen.

• One-week stay (September 2011) at the **Universidad de Concepcion**, Chile, invitation by Prof. R. Rodrigues and Dr. D. Mora.

• Two-week stay (August 2012) at the **Los Alamos National Laboratory - Theoretical Division**, New Mexico, invitation by Dr. K. Lipnikov.

• One-week stay (December 2012) at the **Universidad de Concepcion**, Chile, invitation by Dr. D. Mora.

• One-week stay (December 2013) at the **Universidad del Bio-Bio**, Concepcion (Chile), invitation by Dr. D. Mora.

• One-week stay (February 2014) at the **Department of Civil and Environmental Engineering**, Urbana-Champaign, Illinois, invitation by Prof. G. H. Paulino.

• One-week stay (July 2015) at the **Universidad del Bio-Bio**, Concepcion (Chile), invitation by Dr. D. Mora.

• One-week stay (December 2016) at **Stanford University**, California, invitation by Prof. G.H. Paulino (Shimizu visiting professor).

• One-week stay (April 2018) at **Wien Universitat**, Vienna (Austria), invitation by Prof. I. Perugia.

• One-week stay (September 2018) at **Georgia Tech**, Atlanta, invitation by Prof. G.H. Paulino.

• One-week stay (November 2018) at **University of Maryland**, College Park, invitation by Prof. R. Nochetto.

• One-week stay (July 2018) at the **Isaac Newton Institute for Mathematical Sciences**, Cambridge, invited for the thematic period *Geometry, compatibility and structure preservation in computational differential equations*.

• Short visit (December 2019) at **Wien Universitat**, Vienna (Austria), invitation by Prof. I. Perugia.

• Short visit (February 2020) at the **Institute of Continuum Mechanics**, Hannover (Germany), invitation by Prof. P. Wriggers.

ORGANIZATIONAL ACTIVITIES

• Organization, in collaboration with B. Ayuso and A. Timofte, of the First Young Researchers Workshop on Smart Materials (10-12 October 2005, Berlin), a workshop related to the European project "New materials, adaptive systems and their nonlinearities. Modelling, control, and numerical simulations."

• Organization of the Minisymposium "Numerical analysis of thin structures" within the International Conference on Mathematics and Continuum Mechanics, Porto (Portugal), 19-22 February 2008.

• Organization of the Minisymposium "Isogeometric Methods" within the USNCCM-11 Congress, Minneapolis (USA), 25-29 July 2011.

• Organization of the Minisymposium "Domain decomposition, preconditioning, and solvers in Isogeometric Analysis" within the 21st International Conference on Domain Decomposition, Rennes (France), 25-29 June 2012.

• **Organization of the Workshop** "Discretization Methods for Polygonal and Polyhedral Meshes," 17-19 September 2012, Milan.

• Organization of the Minisymposium "Mathematical Methods in Computational Mechanics" within the Advances in Computational Mechanics Congress, San Diego (California), 24-27 February 2013.

• Organization of the Minisymposium "Foundations of Isogeometric Analysis" within the MAFELAP Congress, London (UK), 11 - 14 June, 2013.

• Organization of the Minisymposium "Solvers for Isogeometric Analysis and Applications" within the DD22 (International Conference on Domain Decomposition Methods), Lugano (Switzerland), 16 - 20 September, 2013.

• Organization of the Minisymposium "Structure-preserving and Polyhedral Discretizations" within the WCCM XI (11 World Congress on Computational Mechanics), Barcelona (Spain), 20 - 25 July, 2014.

• Organization of the Minisymposium "Applications of the Virtual Element Method" within the GAMM 2015 Congress, Lecce (Italy), 23 - 27 March, 2015.

• Organization of the Minisymposium "Polygonal and polyhedral methods" within the X-DMS 2015 (eXtended Discretization Methods), Ferrara (Italy), 9 - 11 September, 2015.

• **Organization of the Workshop** "Polytopal Element Methods in Mathematics and Engineering 2015," Georgia Tech (USA), 26–28 October 2015.

• Organization of the Minisymposium "Advances in polygonal and polyhedral methods" within the SIMAI 2016 Congress, Milan (Italy), 13–16 September, 2016.

• Organization of the Minisymposium "High order methods for polygonal and polyhedral meshes" within the ECCOMAS 2016 Congress, Crete (Greece), 5–10 June, 2016.

• Organization of the Minisymposium "Virtual Element Methods" within the FEF 2017 Congress, Rome (Italy), 5–7 April, 2017.

• **Organization of the Workshop** "Polytopal Element Methods in Mathematics and Engineering 2017," Milano-Bicocca (Italy), 5–7 July 2017.

• Organization of the Minisymposium "Recent advancements in polygonal methods" within the WONAPDE 2019 Congress, Concepcion (Chile), 21-25 January (2019).

• **Organization of the Workshop** "Polytopal Element Methods in Mathematics and Engineering 2019," Marseille (France), 29 April–3 May (2019).

• Organization of the Minisymposium "Virtual Element and Related Polygonal Methods for Inelastic Structural Applications" at the COMPLAS 2019 Congress, Barcelona, 3–5 September (2019).

• Organization of the Minisymposium "Numerical methods for partial differential equations" at the UMI 2019 Congress, Pavia, 2–7 September (2019).

• **Organization of the INdAM Workshop** "Polygonal methods for PDEs: theory and applications," online, 17–19 May (2021).

• **Organization of the Workshop** "NEMESIS: New Generation Methods for Numerical Simulations," online, 14–15 June (2021).

• Organization of the Minisymposium "Virtual Element and related polygonal methods in solid and fluid mechanics applications" at the WCCM-APCOM 2022 Congress (online).

• Organization of the Minisymposium "Recent advancements in Polytopal Methods for Fluid Mechanics" at the 22nd IACM Computational Fluids Conference, Cannes (France), 25–28 April (2023).

• **Organization of a CISM Advanced Course** titled "Virtual elements for problems in mechanics," Udine (Italy), 20–24 October (2023).

• Organization of the Minisymposium "Virtual Element Method For Engineering Applications" at the COMPLAS 2023 Congress, Barcelona, 5–7 September (2023).

• **Organization of the Workshop** "NEMESIS Kick-Off Meeting", Montpellier (France), June 19–21 (2024).

• Organization of the Minisymposium "Virtual elements for partial differential equations on polytopal meshes" at the WCCM-PANACM2024, Vancouver (Canada), July 21–26 (2024).

• Organization of the Minisymposium "Polytopal Methods for PDES in Fluid Mechanics" at the 22nd IACM Computational Fluids Conference, Santiago (Chile), 17–20 March (2025).

• Organization of the Minisymposium "Discrete complexes and polytopal methods: a NEMESIS minisymposium" at the ICOSAHOM 2025, Montreal (Canada), July 13–18 (2025).

REFEREE FOR JOURNALS AND INSTITUTIONS (not exhaustive)

• Referee for multiple journals in the fields of numerical analysis and engineering (approximately 20-30 journals). Constant and intense refereeing activity (about 20 reviews per year).

• Referee for various foreign institutions (particularly refereeing projects for major Austrian, Chilean, and Swiss funding organizations).

• Occasionally refereeing for tenure track or qualification processes in foreign countries (Austria, China, Korea, US).

• Referee for selection processes of ERC Starting Grants (highly competitive excellence grants).

MEMBER OF EDITORIAL BOARDS AND COMMITTEES

• Member of the editorial board of the *Journal of Advanced Research in Applied Mathematics* (2009-2012).

• Member of the teaching group of the *Ph.D. Program in Mathematics* (M.A.S.S.C. until 2013), Department of Mathematics "Federigo Enriquez" at the University of Milan (from 2010 to 2015). Since 2016, a member of the teaching group for the (consortium) Ph.D. Program in Mathematics, involving Milan-Bicocca, Pavia, and Indam.

• Member of the editorial board of ECCOMAS YIC2012, 24-27 April 2012, Aveiro, Portugal.

• Member of the academic council of the *Doctorate in Applied Mathematics*, Department of Mathematics at the Universidad del Bio-Bio, Concepcion, Chile.

• Member of the **ECCOMAS Young Investigator Committee**, representing SIMAI (2014-2017).

• **Guest editor** for the special issue *Polyhedral discretizations for PDEs* in the journal *Mathematical Modelling and Numerical Analysis* (2015).

• Since 2018, a member of the **Editorial Board** for the journal *Mathematical Models and Methods in Applied Sciences*.

• Since 2019, a member of the **Editorial Board** for the journal *Bollettino della Unione Matematica Italiana*.

• Since 2019, a member of the **Editorial Board** for the journal *Advances in Computational Mathematics*.

• Since 2020, a member of the **Gruppo 2003** for scientific research (*https://www.gruppo2003.org/*).

• **Guest editor** for the special issue *Recent results and perspectives for Virtual Element Methods* in the journal *Mathematical Models and Methods in Applied Sciences* (2021).

• **Guest Editor** for the book *The Virtual Element Method and its Applications*, SEMA-SIMAI Springer Series (2021).

• Since 2021, a member of the **Editorial Board** for the journal *Journal of Scientific Computing*.

• Since 2021, a member of the **Editorial Board** for the journal *Computer Methods in Applied Mechanics and Engineering*.

• Member of **Scientific Committees of conferences:** IGA 2019 Congress (Munich, Germany), POEMS 2022 Congress (Milan, Italy), COMPLAS 2023 Congress (Barcelona, Spain), CFC 2023 (Cannes, France), COMPLAS 2025 Congress (Barcelona, Spain).

FINANCING AND FUND MANAGEMENT

• Associate researcher of the European project ERC Starting Grant *GeoPDEs*, led by Annalisa Buffa (2009–2013), of the European project Factory of the Future *TERRIFIC*, led by Carlo Lovadina (2011–2014), and of various PRIN projects (not listed in detail).

• Coordinator for the funding PUR 2010 of the Department of Mathematics F. Enriques, valued at 20,600 euro (2010–2014).

• **Coordinator for the funding** FIRB code RBFR08CZ0S, Milan group, valued at 76,000 euro (2010–2014).

• **Coordinator (PI) for the funding** ERC Consolidator Grant, code 681162, valued at 980,634 euro (2016–2020).

• **National Coordinator (PI) for the funding** PRIN 2017 "Virtual Element Methods: Analysis and Applications," valued at 559,290 euro (2019–2022).

• Funding of 13,000 euro from INdAM for the Workshop *Polygonal methods for PDEs: theory and applications*.

• **Coordinator (PI) for the funding** ERC Synergy Grant NEMESIS, my share valued at 1327,103 euro (2024–2029).

REFEREE FOR DOCTORAL THESES AND INTERNATIONAL HABILITATIONS

• Referee for the thesis of A. Niemi (University of Helsinki, Finland, 2009)

• Referee and committee member for the thesis of F.E. Sanhueza (University of Concepcion, Chile, 2010)

• Referee for the thesis of D. Mora (University of Concepcion, Chile, 2010)

• Referee and committee member for the thesis of K.P.S. Galahaut (JKU, University of Linz, Austria, 2013)

• Committee member for the thesis of N. Bigoni (Politecnico di Milano, 2014)

• Committee member for the thesis of M. Benedetto (Politecnico di Torino, 2016)

• Committee member for the thesis of E. Brivadis (IUSS, Pavia, 2017)

• Referee and committee member for the thesis of A. Borio (Politecnico di Torino, 2017)

• Referee for the thesis of M. Frittelli (University of Salento, 2018)

• Referee for the thesis of M. Botti (University of Montpellier, 2018)

• Committee member for the thesis of H. Chi (Georgia Tech, 2018)

• Referee for the Habilitation Thesis of S. Weisser (University of Saarlandes, 2019)

• Committee member for the thesis of A. Pichler (University of Vienna, 2019)

• Referee for the Habilitation to Lecture (venia docendi) of T. Takaks (JKU, Linz, 2021)

• Referee and committee member for the thesis of J. Moatti (INRIA Lille, 2023).

• Committee for the Habilitation HDR of F. Bonaldi (University of Perpignan, 2024)

DIDACTICAL ACTIVITY

Here I do not report my didactical activity, which can be found in my italian curriculum, and which (especially starting from year 2010) is intense (as dictated by the duties of a Professor in Italy) and includes also a large amount of Bachelor and Master Theses in Mathematics, in addition to courses.

I here only report being the advisor for the following PhD theses:

• *Supervisor* for the Ph.D. Thesis in Mathematics titled *Advancements in Mimetic and Virtual Element Methods*, by Ph.D. candidate Giuseppe Vacca (in collaboration with the University of Bari), year 2016.

• Foreign *co-supervisor* for the Ph.D. Thesis in Mathematics titled *Virtual Element Method For Spectral Problems*, by Ph.D. candidate Gonzalo Rivera (in collaboration with the University of Concepcion), year 2017.

• *Supervisor* for the Ph.D. Thesis in Mathematics titled *The hp version of the Virtual Element Method*, by Ph.D. candidate Lorenzo Mascotto, University of Milano (in collaboration with the University of Holdenburg).

• Foreign *co-supervisor* for Ph.D. candidate Alberth Ballesta Silgado, University of Concepcion.

• *Supervisor* for Ph.D. candidate in Mathematics Kirubell B. Haile, University of Milano-Bicocca, currently in progress.

SCIENTIFIC ACTIVITY

Main research interests:

- Finite Elements
- Numerical Methods in Fluid and Solid Mechanics
- Virtual Element Methods and Mimetic Methods
- Isogeometric Analysis

ARTICLES ON INTERNATIONAL JOURNALS

1. F. Auricchio, L. Beirão da Veiga, C. Lovadina, *Remarks on the asymptotic behaviour of Koiter shells*, "Computers and Structures" 80:735-745 (2002)

2. F. Auricchio, L. Beirão da Veiga, *On a new integration scheme for von-Mises plasticity with linear hardening*, "Int. J. for Numer. Meth. in Engnr." 56:1375-1396 (2003)

3. L. Beirão da Veiga, *Asymptotic energy behavior of two classical intermediate benchmark shell problems*, "Math. Models and Meth. Appl. Sci" 13:1279-1302 (2003)

4. L. Beirão da Veiga, *Uniform error estimates for a class of intermediate cylindrical shell problems*, "Numerische Mathematik", 96:661-689 (2004)

5. L. Beirão da Veiga, C. Chinosi, *Numerical evaluation of the asymptotic energy behavior of intermediate shells with application to two classical benchmark tests*, "Computers and Structures", 82:525-534 (2004)

6. L. Beirão da Veiga, *Finite element methods for a modified Reissner-Mindlin free plate model*, "Siam J. on Numerical Analysis", 42:1572-1591 (2004)

7. L. Beirão da Veiga, *Optimal error bounds for the MITC4 plate bending element*, "CALCOLO", 41:227-245 (2004)

8. F. Auricchio, L. Beirão da Veiga, C. Lovadina, A. Reali, *An Analysis of some mixed-enhanced finite element for plain linear elasticity*, "Comp. Meth. in Appl. Mech. and Engrg.", 194:2947-2968 (2005)

9. F. Auricchio, L. Beirão da Veiga, C. Lovadina, A. Reali, *A Stability Study of some Mixed Elements for Finite Elasticity Problems*, "Comp. Meth. in Appl. Mech. and Engrg.", 194:1075-1092 (2005)

10. L. Beirão da Veiga, *Asymptotic study of the solution for pinched cylindrical shells*, "Comp. Meth. in Appl. Mech. and Engrg.", 194:1113-1139 (2005)

11. E. Artioli, F. Auricchio, L. Beirão da Veiga, *Integration schemes for von-Mises plasticity models based on exponential maps: numerical investigations and theoretical considerations*, "Int. J. for Numer. Meth. in Engnr.", 64:1133-1165 (2005)

12. E. Artioli, F. Auricchio, L. Beirão da Veiga, *A novel "optimal" exponential-based integration algorithm for von-Mises plasticity with linear hardening: theoretical analysis on yield consistency, accuracy and convergence and numerical investigations*, "Int. J. for Numer. Meth. in Engnr.", 67:449-498 (2006)

13. L. Beirão da Veiga, C. Lovadina, L. Pavarino, *Positive Definite Balancing Neumann-Neumann preconditioners for Nearly Incompressible Elasticity*, "Numerische Matematik", 104:271-296 (2006)

14. Y. Basilevs, L. Beirão da Veiga, J. Cottrell, T. J. R. Hughes, G. Sangalli *Isogeometric Analysis: Approximation, stability and error estimates for h-refined meshes*, "Math. Models and Meth. Appl. Sci", 16:1031-1090 (2006)

15. L. Beirão da Veiga, C. Lovadina, *Asymptotics of Shell Eigenvalue Problems*, "Comp. Rend. Math.", vol 342, 9:707-710 (2006)

16. L. Beirão da Veiga, J. Niiranen, R. Stenberg, *A posteriori error estimates for the plate bending Morley element*, "Numerische Mathematik", 106:165-179 (2007)

17. E. Artioli, F. Auricchio, L. Beirão da Veiga, *Second order integration algorithms for von-Mises plasticity with a non-linear kinematic hardening mechanism*, "Comp. Meth. in Appl. Mech. and Engrg.", 196:1827-1846 (2007)

18. F. Auricchio, L. Beirão da Veiga, A. Buffa, C. Lovadina, A. Reali, G. Sangalli, *A fully locking-free isogeometric approach for plane linear elasticity problems: a stream function formulation*, "Comp. Meth. in Appl. Mech. and Engrg.", 197:160-172 (2007)

19. L. Beirão da Veiga, J. Niiranen, R. Stenberg, *A family of C^0 finite elements for Kirchhoff plates I: error analysis*, "SIAM Journal of Numerical Analysis", 45:2047-2071 (2007)

20. E. Artioli, F. Auricchio, L. Beirão da Veiga, *Generalized midpoint integration algorithms for J_2 plasticity with linear hardening*, "Int. J. for Numer. Meth. in Engnr.", 72:422-463 (2007)

21. L. Beirão da Veiga, I. Paris, D. Chapelle, *Towards improving the MITC6a triangular shell element*, "Computers and Structures", 85:1589-1610 (2007)

22. E. Artioli, L. Beirão da Veiga, H. Hakula, C. Lovadina, *Free Vibrations for Some Koiter Shells of Revolution*, "Appl. Math. Lett.", 21: 1245-1248 (2008)

23. L. Beirão da Veiga, J. Niiranen, R. Stenberg, *A family of C^0 finite elements for Kirchhoff plates II: numerical tests*, "Comp. Meth. in Appl. Mech. and Engrg.", 197:1850-1864 (2008)

24. L. Beirão da Veiga, *A residual based error estimator for the Mimetic Finite Difference method*, "Numer. Math", 108: 387-406 (2008)

25. L. Beirão da Veiga, C. Chinosi, C. Lovadina, R. Stenberg, *A priori and a posteriori error analysis for a family of Reissner-Mindlin plate elements*, BIT Numerical Mathematics, 48: 189-213 (2008)

26. L. Beirão da Veiga, H. Hakula, J. Pitkäranta *Asymptotic and numerical analysis of the eigenvalue problem of a clamped cylindrical shell*, "Math. Models and Meth. Appl. Sci." 18: 1983-2002 (2008)

27. L. Beirão da Veiga, G. Manzini, *An a-posteriori error estimator for the mimetic finite difference approximation of elliptic problems*, "Int. J. for Numer. Meth. in Engnr.", 76: 1696-1723 (2008)

28. L. Beirão da Veiga, C. Lovadina, *An Interpolation Theory approach to Shell Eigenvalue Problems*, "Math. Models and Meth. Appl. Sci.", 18: 2003-2018 (2008)

29. L. Beirão da Veiga, G. Manzini, *A higher-order formulation of the mimetic finite difference method*, "SIAM J. on Scientific Computing" 31:732-760 (2008)

30. E. Artioli, L. Beirão da Veiga, C. Lovadina, H. Hakula *On the asymptotic behaviour of shells of revolution in free vibration*, "Comput. Mech." 44:45-60 (2009)

31. L. Beirão da Veiga, V. Gyrya, K. Lipnikov, G. Manzini, *Mimetic finite difference method for the Stokes problem on polygonal meshes*, "J. Comput. Phys." 228:7215-7232 (2009)

32. L. Beirão da Veiga, K. Lipnikov, G. Manzini, *Convergence analysis of the high-order mimetic finite difference method*, "Numer. Math." 113:325-356 (2009)

33. F. Auricchio, L. Beirão da Veiga, C. Lovadina, A. Reali, *The importance of the exact satisfaction of the incompressibility constraint in nonlinear elasticity: mixed FEM versus NURBS-based approximation*, "Comp. Meth. in Appl. Mech. and Engrg.", 199:314-323 (2010)

34. L. Beirão da Veiga, K. Lipnikov, *A mimetic discretization of the Stokes problem with selected edge bubbles*, "Siam J. Sci. Comput." SIAM J. Sci. Comput. 32:875-893 (2010)

35. L. Beirão da Veiga, C. Chinosi, C. Lovadina, L. Pavarino, *Robust BDDC preconditioners for Reissner-Mindlin plate bending problems and MITC elements*, "SIAM J. Numer. Anal.", 47:4214-4238 (2010)

36. L. Beirão da Veiga, *A Mimetic discretization method for linear elasticity*, "Math. Mod. Numer. Anal." 44:231-250 (2010)

37. L. Beirão da Veiga, J. Niiranen, R. Stenberg, *A posteriori error analysis for the Morley plate element with general boundary conditions*, "Int. J. Numer. Meth. Engrg.", 83:1-26 (2010)

38. L. Beirão da Veiga, K. Lipnikov, G. Manzini, *Error analysis for a mimetic discretization for the steady Stokes problem on polyhedral meshes*, "Siam. J. Numer. Anal." 48:1419-1443 (2010)

39. F. Auricchio, L. Beirão da Veiga, T.J.R. Hughes, A. Reali, G. Sangalli, *Isogeometric Collocation Methods*, "Math. Models and Meth. Appl. Sci.", 20:2075-2107 (2010)

40. L. Beirão da Veiga, D. Mora, *A mimetic discretization of the Reissner-Mindlin plate bending problem*, "Numer. Math.", 117: 425-462 (2011)

41. L. Beirão da Veiga, A. Buffa, J. Rivas, G. Sangalli, *Some estimates for h-k-p refinement in Isogeometric Analysis*, "Numer. Math.", 118:271-305 (2011)

42. L. Beirão da Veiga, A. Buffa, D. Cho, G. Sangalli, *IsoGeometric analysis using T-splines on two-patch geometries*, "Comput. Meth. Appl. Mech. Engrg.", 200: 1787-1803 (2011)

43. L. Beirão da Veiga, K. Lipnikov, G. Manzini, *Arbitrary-Order Nodal Mimetic Discretizations of Elliptic Problems on Polygonal Meshes*, "SIAM J. Numer. Anal.", 49: 1737-1760 (2011)

44. L. Beirão da Veiga, J. Droniou, G. Manzini, *A unified approach to handle convection terms in Finite Volumes and Mimetic Discretization Methods for elliptic problems*, "IMA J. Numer. Analysis", 31: 1357-1401 (2011)

45. L. Beirão da Veiga, M. Verani, *A posteriori boundary control for FEM approximation of elliptic eigenvalue problems*, "Num. Meth. for PDE", 28:369-388 (2012)

46. L. Beirão da Veiga, A. Buffa, C. Lovadina, M. Martinelli, G. Sangalli, *An isogeometric method for the Reissner-Mindlin plate bending problem*, "Comput. Meth. Appl. Mech. Engrg.", 209-212: 45-53 (2012)

47. L. Beirão da Veiga, D. Cho, G. Sangalli, *Anisotropic NURBS approximation in Isogeometric Analysis*, "Comput. Meth. Appl. Mech. Engrg.", 209-212: 1-11 (2012)

48. L. Beirão da Veiga, C. Chinosi, C. Lovadina, L. Pavarino, *BDDC preconditioners for Naghdi shell problems and MITC9 elements*, "Comp. and Struct.", 102-103:28-41 (2012)

49. L. Beirão da Veiga, D. Cho, L. Pavarino, S. Scacchi, *Overlapping Schwarz Methods for Isogeometric Analysis*, "SIAM J. Numer. Anal." 50:1394-1416 (2012)

50. L. Beirão da Veiga, C. Lovadina, A. Reali, *Avoiding shear locking for the Timoshenko beam problem via isogeometric collocation methods*, "Comput. Meth. Appl. Mech. Engrg.", 241–244:38–51 (2012)

51. L. Beirão da Veiga, A. Buffa, D. Cho, G. Sangalli, *Analysis-Suitable T-splines are Dual-Compatible*, "Comput. Meth. Appl. Mech. Engrg.", 249—252:42—51 (2012)

52. F. Auricchio, L. Beirão da Veiga, T.J.R. Hughes, A. Reali, G. Sangalli, *Isogeometric collocation for elastostatics and explicit dynamics*, "Comput. Meth. Appl. Mech. Engrg.", 249—252:2-–14 (2012)

53. L. Beirão da Veiga, D. Mora, R. Rodrigues, *Numerical analysis of a locking-free mixed finite element method for a bending moment formulation of Reissner-Mindlin plate model*, "Num. Meth. for PDE", 29:40—63 (2013)

54. L. Beirão da Veiga, F. Brezzi, A. Cangiani, L.D. Marini, G. Manzini, A. Russo, *Basic principles of Virtual Element Methods*, "Math. Models and Meth. Appl. Sci.", 23:199—214 (2013)

55. L. Beirão da Veiga, D. Cho, L. Pavarino, S. Scacchi, *Isogeometric Schwarz preconditioners for linear elasticity systems*, "Comput. Meth. Appl. Mech. Engrg.", 253:439—454 (2013)

56. P. Antonietti, L. Beirão da Veiga, M. Verani, *A Mimetic Discretization of Elliptic Obstacle Problems*, "Math. of Comp.", 82:1379–1400 (2013)

57. P. Antonietti, L. Beirão da Veiga, C. Lovadina, M. Verani, *Hiercarchical a posteriori error estimators for the mimetic discretization of elliptic problems*, "SIAM J. Numer. Anal.", 51: 654—675 (2013)

58. L. Beirão da Veiga, D. Cho, L. Pavarino, S. Scacchi, *BDDC preconditioners for Isogeometric Analysis*, "Math. Models and Meth. Appl. Sci.", 23:1099—1142 (2013)

59. L. Beirão da Veiga, F. Brezzi, L.D. Marini, *Virtual Elements for linear elasticity problems*, "SIAM J. Numer. Anal.", 51: 794—812 (2013)

60. F. Auricchio, L. Beirão da Veiga, J. Kiendl, C. Lovadina, A. Reali, *Locking-free isogeometric collocation methods for spatial Timoshenko rods*, "Comput. Methods Appl. Mech. Engrg." 263: 113—126 (2013)

61. L. Beirão da Veiga, J. Niiranen, R. Stenberg, *A posteriori error analysis for the postprocessed MITC plate elements* "Siam J. Numer. Anal." 51: 1–23 (2013)

62. L. Beirão da Veiga, C. Lovadina, D. Mora, *Numerical results for mimetic discretization of Reissner–Mindlin plate problems*, "CALCOLO" 50:209–237 (2013)

63. L. Beirão da Veiga, A. Buffa, G. Sangalli, R. Vazquez, *Analysis-suitable T-splines of arbitrary degree: definition, linear independence and approximation properties* "Math. Models and Meth. Appl. Sci." 23: 1979–2003 (2013)

64. F. Auricchio, L. Beirão da Veiga, C. Lovadina, A. Reali, R.L. Taylor, P. Wriggers, *Approximation of incompressible large deformation elastic problems: some unresolved issues* "Comput. Mech." 52: 1153–1167 (2013)

65. P. F. Antonietti, L. Beirão da Veiga, D. Mora, M. Verani, *A Stream Virtual Element Formulation of the Stokes Problem on Polygonal Meshes* "Siam J. Numer. Anal." 52: 386–404 (2014)

66. P. F. Antonietti, L. Beirão da Veiga, N. Bigoni, M. Verani, *Mimetic finite differences for nonlinear and control problems* "Math. Mod. Meth. Appl. Sci.", 24: 1457–1493 (2014)

67. L. Beirão da Veiga, F. Brezzi, L. D. Marini, A. Russo, *The Hitchhiker's Guide to the Virtual Element Method*, "Math. Mod. Meth. Appl. Sci." 24: 1541–1573 (2014)

68. L. Beirão da Veiga, A. Buffa, G. Sangalli, R. Vazquez, *Mathematical analysis of variational isogeometric methods*, "ACTA Numerica", 23: 157–287 (2014)

69. L. Beirão da Veiga e G. Manzini, *A virtual element method with arbitrary regularity* "IMA J. Numer. Anal.", 34: 759–781 (2014)

70. L. Beirão da Veiga, D. Cho, L. Pavarino, S. Scacchi, *Overlapping Schwarz preconditioners for isogeometric collocation methods*, "Comput. Methods Appl. Mech. Engrg." 278: 239–253 (2014)

71. L. Beirão da Veiga, L. Pavarino e S. Scacchi, O. B. Widlund, S. Zampini, *Isogeometric BDDC Preconditioners with Deluxe Scaling*, SIAM J. Sci. Comp. 36: 1118–1139, (2014)

72. L. Beirão Da Veiga, T. J. R. Hughes, J. Kiendl, C. Lovadina, J. Niiranen, A. Reali, H. Speleers, *A locking-free model for Reissner–Mindlin plates: Analysis and isogeometric implementation via NURBS and triangular NURPS*, Math. Models Methods Appl. Sci. 25: 1519–1551 (2015).

73. A. Buffa, R. Hernandez Vazquez,G. Sangalli, L. Beirão da Veiga, *Approximation Estimates for Isogeometric Spaces in Multipatch Geometries* Num. Meth. PDE 31: 422–438 (2015)

74. L. Beirão da Veiga, G. Manzini, M. Putti, *Post processing of solution and flux for the nodal mimetic finite difference method*, Num. Meth. for PDEs 31: 336–363, (2015)

75. L. Beirão da Veiga, G. Manzini, *Residual a posteriori error estimation for the Virtual Element Method for elliptic problems*, Math. Mod. Numer. Anal. 49: 577–599 (2015)

76. J. Kiendl, F. Auricchio, L. Beirão da Veiga, C. Lovadina, A. Reali, *Isogeometric collocation methods for the Reissner-Mindlin plate problem*, Comput. Methods Appl. Mech. Engrg., 284: 489–507 (2015).

77. G. Vacca, L. Beirão da Veiga, *Virtual element methods for parabolic problems on polygonal meshes* Num. Meth. PDE 31: 2110–2134 (2015).

78. L. Beirão da Veiga, C. Lovadina, D. Mora, *Virtual Elements for elastic and inelastic small deformation problems on polygonal meshes*, Comput. Meth. Appl. Mech. Engrg., 295: 327-346 (2015).

79. L. Beirão da Veiga, F. Brezzi, L.D. Marini, A. Russo, *H(div) and H(curl)-conforming virtual element methods*, Numer. Math., 133:303-332 (2016).

80. L. Beirão da Veiga, F. Brezzi, L.D. Marini, A. Russo, *Virtual Element Method for general second-order elliptic problems on polygonal meshes* Math. Models Methods Appl. Sci., 26: 729-750 (2016).

81. P. F. Antonietti, L. Beirão da Veiga, S. Scacchi, M. Verani, *A C^1 Virtual Element Method for the Cahn–Hilliard Equation with Polygonal Meshes*, SIAM J. Numer. Anal. 54: 34-56 (2016).

82. L. Beirão da Veiga, F. Brezzi, L.D. Marini, A. Russo, *Serendipity Nodal VEM spaces*, Computers & Fluids, doi:10.1016/j.compfluid.2016.02.015

83. L. Beirão da Veiga, A. Chernov, L. Mascotto, A. Russo, *Basic principles of hp virtual elements on quasiuniform meshes* Math. Models Methods Appl. Sci., 26:1567-1598 (2016).

84. L. Beirão da Veiga, F. Brezzi, L.D. Marini, A. Russo, *Mixed virtual element methods for general second order elliptic problems on polygonal meshes*, Math. Mod. Numer. Anal. 50:727-747 (2016)

85. L. Beirão da Veiga, D. Mora, G. Rivera, R. Rodriguez, *A virtual element method for the acoustic vibration problem*, Numer. Math. 136:725–763 (2017)

86. L. Beirão da Veiga, L.F. Pavarino; , S. Scacchi; , O. Widlund, S. Zampini, *Adaptive selection of primal constraints for isogeometric BDDC deluxe preconditioners*, Siam J. Sci. Comp. 39:281-302 (2017)

87. L. Beirão da Veiga, C. Lovadina, G. Vacca, *Divergence free virtual elements for the Stokes problem on polygonal meshes*, Math. Mod. Numer. Anal. 51: 509 - 535 (2017)

88. H. Chi, L. Beirão da Veiga, G.H. Paulino, *Some basic formulations of the virtual element method (VEM) for finite deformations*, Comput. Meth. Appl. Mech. Engrg. 318:148-192 (2017)

89. E. Artioli, L. Beirão da Veiga, C. Lovadina, E. Sacco, *Arbitrary order 2D virtual elements for polygonal meshes: part I, elastic problem*, Comput. Mech. 60: 355–377 (2017)

90. E. Artioli, L. Beirão da Veiga, C. Lovadina, E. Sacco, *Arbitrary order 2D virtual elements for polygonal meshes: part II, inelastic problem*, Comput. Mech. 60: 643–657 (2017)

91. L. Beirão da Veiga, F. Brezzi, L.D. Marini, A. Russo, *Serendipity Face and Edge VEM spaces*, Rend. Lincei Math. e Appl., 28:143–180 (2017)

92. L. Beirão da Veiga, F. Dassi, A. Russo, *High-order Virtual Element Method on polyhedral meshes*, Comp. & Math. with Appl., 74:1110–1122 (2017)

93. F. Auricchio, L. Beirão da Veiga, F. Brezzi, C. Lovadina, *Mixed Finite Element Methods*, Encyclopedia of Computational Mechanics, Second Edition, 1:1–53 (2017)

94. L. Beirão da Veiga, L. Lopez, G. Vacca, *Mimetic finite difference methods for Hamiltonian wave equations in 2D*, Comp. & Math. with Appl., 74:1123–1141 (2017)

95. L. Beirão da Veiga, C. Lovadina, A. Russo, *Stability analysis for the virtual element method*, Math. Mod. and Meth. Appl. Sci. 27:2557–2594 (2017)

96. L. Beirão da Veiga, F. Brezzi, F. Dassi, L.D. Marini, A. Russo, *Virtual Element approximation of 2D magnetostatic problems*, Comput. Meth. Appl. Mech. Engrg., 327:173–195 (2017)

97. L. Beirão da Veiga, C. Lovadina, G. Vacca, *Virtual elements for the Navier-Stokes problem on polygonal meshes*, SIAM J. Numer. Anal. 56:1210–1242 (2018)

98. L. Beirão da Veiga, A. Chernov, L. Mascotto, A. Russo, *Exponential convergence of the hp virtual element method in presence of corner singularities*, Numer. Math. 138:581–613 (2018)

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