Curriculum Vitae
Ilaria Perugia

Personal Information

Address	Faculty of Mathematics
	University of Vienna
	Oskar-Morgenstern-Platz 1
	1090 Wien, Austria
Phone/Fax	+43 (0)1 4277 507 98
E-mail	ilaria.perugia@univie.ac.at
Webpage	http://www.mat.univie.ac.at/ perugia/
Date of Birth	October 23, 1969
Place of Birth	Milano, Italy
Nationality	Italian

Education

Ph.D in Computational Mathematics and Operations Research, Università di Milano, 1998
Advisor: F. Brezzi, Thesis: "Discretization of linearly constrained problems and applications in scientific computing"

Laurea in Matematica, Università di Pavia, 1993
Advisors: G.A. Pozzi and F. Brezzi, Thesis: "Finite element methods for the Stokes problem"

Employment

Since Aug. 2013	Professor of Numerics of PDE's, Fakultät für Mathematik, Universität Wien
2011–	Professor of Numerical Analysis, Dipartimento di Matematica, Università di Pavia (on leave since Aug. 2013)
2001–2011	Associate Professor of Numerical Analysis, Facoltà di Scienze Matematiche, Fisiche e Naturali, Università di Pavia
1995–2001	Researcher of Numerical Analysis, Facoltà di Scienze Matematiche, Fisiche e Naturali, Università di Pavia

Visiting Positions

2006–2007	(Fall Semester) Visiting Professor, Seminar für Angewandte Mathematik, ETH Zürich
1999–2001	Visiting Assistant Professor, School of Mathematics, University of Minnesota

Honors

Deputy Director of the Erwin Schrödinger International Institute for Mathematics and Physics (ESI), Vienna (Jan 2016–Dec 2019)

Member of the Scientific Governing Board of the ESI, Vienna (Jan 2016–Dec 2019)

Member of the European Organising Committee of the European Finite Element Fair (since 2016)

Associate Research Fellow at the IMATI-CNR "Enrico Magenes", Pavia (since 2001)

Supercomputing Institute for Digital Simulation and Advanced Computation Fellowship, University of Minnesota, Jul 2000–Jun 2001

CNR Postdoctoral Fellowship (spent at the University of Minnesota), Sep 1999–Aug 2000

Berzolari Prize (best Laurea thesis at the Università di Pavia; given every three years)

Invited Visits

Seminar für Angewandte Mathematik, ETH Zürich (May 2016)
Fachbereich Mathematik, Technische Universität Darmstadt (July 2015)
Mathematisches Institut, Universität Bern (May 2014)
Seminar für Angewandte Mathematik, ETH Zürich (Jul 2013)
ACMAC, Heraklion (May 2013)
Seminar für Angewandte Mathematik, ETH Zürich (Jan 2011)
Seminar für Angewandte Mathematik, ETH Zürich (Mar 2010)
Seminar für Angewandte Mathematik, ETH Zürich (Apr 2009)
INRIA Rocquencourt (Nov 2006)
Mathematisches Institut, Universität Basel (November 2006)
Seminar für Angewandte Mathematik, ETH Zürich (Oct 2006-Feb 2007)
Laboratoire Jacques-Louis Lions, Université Pierre et Marie Curie, Paris (Mar 2004)
École Nationale Supérieure de Techniques Avancées ENSTA, Paris (Mar 2004)
Department of Mathematics, University of Leicester (May 2003)
Institute de Recherche Mathématique de Rennes IRMAR, Université de Rennes (Mar 2003)
Fachbereich Mathematik und Informatik, Universität Mainz (Feb 2003)
Mathematisches Institut, Universität Basel (Jun 2002)
Institut für Angewandte Mathematik, Universität Heidelberg (Jun 2002)
Mathematisches Institut, Universität Tübingen (Mar 2002)
Department of Computer Science, Stanford University (Jul 2000)
School of Mathematics, University of Minnesota (Sep 1999–Jul 2001)

Conference Talks

Plenary Lectures

1. 27th Biennial Numerical Analysis Conference, University of Strathclyde in Glasgow, Scotland June 27–30, 2017 (upcoming).

2. I. Perugia, *Non standard finite elements for wave problems*, Joint Annual Meeting DMV and GAMM, Braunschweig, Germany, March 7–11, 2016.

3. I. Perugia, *Trefftz-discontinuous Galerkin methods for time-harmonic wave problems*, European Conference on Numerical Mathematics and Advanced Applications ENUMATH 2013, Lausanne, Switzerland, August 26–30, 2013.

4. I. Perugia, *Trefftz-discontinuous Galerkin methods for time-harmonic wave problems*, IMA Workshop "Numerical Solutions of Partial Differential Equations: Novel Discretization Techniques", IMA Minneapolis, USA, November 1-5, 2010.

5. I. Perugia, *Non polynomial approximations of wave problems*, European Science Foundation ESF Conference on Highly Oscillatory Problems: From Theory to Applications, The Isaac Newton Institute, Cambridge, UK, September 12–17, 2010.

6. I. Perugia, *Plane wave discontinuous Galerkin methods*, 18th International Conference on Domain Decomposition Methods, Jerusalem, Israel, January 12–17, 2008.

7. I. Perugia, *Analysis of discontinuous Galerkin approximations of the Maxwell eigenproblem*, 7th International Conference on Mathematical and Numerical Aspects of Waves WAVES'05, Providence RI, USA, June 20–24, 2005.

8. I. Perugia, *Nonconforming mixed finite element approximations to time-harmonic eddy current problems*, XIV COMPUMAG Conference on Computation of Electromagnetic Fields, Saratoga Springs NY, USA, July 13–17, 2003.

Invited Lectures

1. ENUMATH 2017 - European Conference on Numerical Mathematics and Advanced Applications, Voss, Norway, September 25–29, 2017 (invited lecture within the Minisymposium on Polyhedral methods and applications, organized by Paola Antonietti, Stefano Berrone, Daniele Di Pietro, and Marco Verani), upcoming.

2. Equadiff 2017, Bratislava, Slovakia, July 24–28, 2017 (invited lecture within the Minisymposium on Multiscale wave propagation problems: analysis and numerics, organized by Mario Ohlberger and Barbara Verfürth), upcoming.

3. Workshop POEMS2017 - Polytopal Element Methods in Mathematics and Engineering, University of Milano Bicocca, Milan, Italy, July 5–7, 2017 (upcoming).

4. Warwick EPSRC Symposium: Numerical Analysis for PDEs, Warwick, April 3–7 April , 2017 (upcoming).

5. I. Perugia, *Space-time Trefftz approximation of wave equations*, Workshop on Recent Contributions of Women to PDEs, Vienna, November 28–30, 2016.

6. I. Perugia, *A Plane Wave Virtual Element Method for the Helmholtz Problem*, MAFELAP 2016 - The Mathematics of Finite Elements and Applications, Brunel University, West London, UK, June 14–17, 2016 (invited lecture within the Minisymposium on PDE Discretisation Methods on Polygonal and Polyhedral Meshes, organized by Andrea Cangiani, Gianmarco Manzini, and Steffen Weißer).

7. F. Kretzschmar, A. Moiola, I. Perugia and S. M. Schnepp, *Space-time Trefftz discontinuous Galerkin methods for wave problems*, WONAPDE 2016 - Fifth Chilean Workshop on Numerical Analysis of Partial Differential Equations, Concepcion, Chile, January 11–15, 2016 (invited lecture within the Minisymposium on Computational Electromagnetism, organized by Alfredo Bermudez and Rodolfo Rodriguez).

8. I. Perugia, *Space-time Trefftz discontinuous Galerkin methods for wave problems*, Workshop "Advances in Discontinuous Galerkin Methods and Related Topics", Heidelberg, Germany, December 14–16, 2015.

9. I. Perugia, *A Plane Wave Virtual Element Method for the Helmholtz Problem*, "The 2nd Chongqing Workshop on Computational and Applied Mathematics", Chongqing, China, August 16–19, 2015.

10. R. Hiptmair, A. Moiola and I. Perugia, *Trefftz-Discontinuous Galerkin Methods for Maxwell's Equations*, EPSRC Durham Symposium "Building Bridges: Connections and Challenges in Modern Approaches to Numerical Partial Differential Equations", Durham, UK, July 8–16, 2014.

11. I. Perugia, *Operator-adapted finite element methods for time-harmonic wave propagation problems* Conference "Fluid Dynamics and Electromagnetism: Theory and Numerical Approximation", Levico Terme, Italy, June 3–6, 2014.

12. I. Perugia, *Discontinuous Galerkin methods and what they can do for you*, Workshop "Advances in Nonlinear PDEs: Analysis, Numerics, Stochastic, Applications", Vienna, Austria, June 02–03, 2014.

13. F. Cavalli, G. Naldi and I. Perugia, *Discontinuous Galerkin approximation of porous Fisher Kolmogorov equations*, MAFELAP 2013 - The Mathematics of Finite Elements and Applications, Brunel University, West London, UK, June 11–14, 2013 (invited lecture within the Minisymposium on Numerical Methods for Parabolic Equations, organized by Dominik Schötzau and Thomas Wihler).

14. I. Perugia, *Trefftz-Discontinuous Galerkin Methods for the Time-Harmonic Maxwell Equations*, IFIP TC7.2 Workshop on "Electromagnetics – Modelling, Simulation, Control and Industrial Applications", WIAS Berlin, Germany, May 13–17, 2013.

15. I. Perugia, *Trefftz-Discontinuous Galerkin Methods for Time-Harmonic Wave Problems*, "Advances in Computational Mechanics (ACM 2013)", San Diego CA, USA, February 24-27, 2013 (invited talk within the Minisymposium on Mathematical Methods in Computational Mechanics, organized by Giancarlo Sangalli, Lourenco Beirao da Veiga and Annalisa Buffa).

16. I. Perugia, *Trefftz-Discontinuous Galerkin Methods for Acoustic Scattering*, Oberwolfach Meeting on "Theory and Applications of Discontinuous Galerkin Methods", Oberwolfach, Germany, February 19–25, 2012.

17. I. Perugia *Trefftz-Discontinuous Galerkin Methods for the Time-Harmonic Maxwell Equations*, Workshop on Numerical Electromagnetics and Industrial Applications NELIA 2011, Santiago de Compostela, October 25–28, 2011.

18. I. Perugia *Trefftz-Discontinuous Galerkin Methods for the Time-Harmonic Maxwell Equations*, Workshop on "Discontinuous Galerkin Methods for Partial Differential Equations", Heraklion, Crete, September 26–28, 2011.

19. I. Perugia *Trefftz-Discontinuous Galerkin Methods for the Time-Harmonic Maxwell Equations*, Workshop on "Partial Differential Equations in Mathematical Physics and their Numerical Approximation", Levico Terme (Trento), September 5–9, 2011.

20. I. Perugia *Trefftz-Discontinuous Galerkin Methods for the Time-Harmonic Maxwell Equations*, Workshop on "Advances in Computational Wave Propagation 2011", University College London, September 2–3, 2011.

21. I. Perugia, *Plane Wave Discontinuous Galerkin Methods for the Helmholtz Problem*, 81st Annual Meeting of the International Association of Applied Mathematics and Mechanics GAMM, Karlsruhe, Germany, March 22–26, 2010, (invited talk within the Minisymposium on Computational Wave Propagation, organized by R. Hiptmair).

22. I. Perugia, *Plane Wave Discontinuous Galerkin Methods* (survey talk), Oberwolfach Meeting on "Computational Electromagnetism and Acoustics", Oberwolfach, Germany, February 14–20, 2010.

23. I. Perugia, *Discontinuous Galerkin approximation of eigenvalue problems*, MAFELAP 2009 - The Mathematics of Finite Elements and Applications, Brunel University, West London, UK, June 9–12, 2009 (invited talk within the Minisymposium on Discontinuous Galerkin Methods organized by Y. Epshteyn, J. Guzman, B. Riviere nd S. Shaw).

24. I. Perugia, *Linear algebra problems arising in discontinuous Galerkin finite element discretizations*, INdAM Workshop on Structured Linear Algebra Problems: Analysis, Algorithms, and Applications, Cortona, Italy, September 15–19, 2008, organized by D.A. Bini.

25. I. Perugia, *Plane wave discontinuous Galerkin methods*, Oberwolfach Meeting on Nonstandard Finite Element Methods, Oberwolfach, Germany, August 10–16, 2008.

26. R. Hiptmair and I. Perugia, *Plane wave discontinuous Galerkin methods for the Helmholtz equation*, 9th US National Congress on Computational Mechanics, San Francisco CA, USA, July 23–26, 2007 (invited talk within the Minisymposium on Discontinuous Galerkin methods for PDEs, organized by S. Adjerid, B. Cockburn, K. Garikipati, A. Lew and C.-W. Shu).

27. A. Buffa, P. Houston and I. Perugia, *Discontinuous Galerkin approximations of the Maxwell eigenproblem*, INdAM Workshop on Multiscale Problems: Modeling, Adaptive Discretization, Stabilization, Solvers Cortona, Italy, September 18–22, 2006, organized by D. Boffi, L.F. Pavarino, G. Russo, F. Saleri and A. Veeser.

28. A. Buffa and I. Perugia, *Discontinuous Galerkin approximation of eigenvalue problems*, Third MIT Conference on Computational Fluid and Solid Mechanics, Boston MA, USA, June 14–17, 2005 (invited talk within the Minisymposium on Discontinuous Galerkin Methods for PDE's, organized by S. Adjerid, B. Cockburn e C.-W. Shu).

29. I. Perugia, *Discontinuous Galerkin methods for Maxwell's equations*, Advanced Computational Electromagnetism Seminar, Tampere, Finland, August 2–4, 2004, organized by L. Kettunen.

30. P. Houston, I. Perugia, A. Schneebeli and D. Schötzau, *Discontinuous Galerkin method for the time-harmonic Maxwell equations: the indefinite case*, IV European Congress on Computational Methods in Applied Sciences and Engineering ECCOMAS, Jyväskylä, Finland, July 24–28, 2004 (invited talk within the Minisymposium on Nonconforming Methods: Classical, Mortar and Discontinuous Galerkin Methods, organized by S. Brenner).

31. P. Houston, I. Perugia and D. Schötzau, *Discontinuous Galerkin methods for the mixed Maxwell equations*, 6th International Conference On Spectral and High Order Methods ICOSAHOM, Brown University, Providence RI, USA, June 21–25, 2004 (invited talk within the Minisymposium on High Order Discontinuous Galerkin Methods, organized by B. Cockburn and C.-W. Shu).

32. I. Perugia, *Discontinuous Galerkin methods for the time-harmonic Maxwell equations*, Seconda Giornata di Studio su "Il Metodo degli Elementi Finiti nelle Applicazioni dell'Ingegneria Elettrica e dell'Informazione", Genova, Italy, 3–4 Giugno 2004.

33. I. Perugia, *Discontinuous Galerkin methods for Maxwell's equations* (survey talk), Oberwolfach Meeting on "Computational Electromagnetism", Oberwolfach, Germany, February 22–28, 2004.

34. I. Perugia, *Discontinuous Galerkin discretization of mixed problems*, AHPCRC Workshop on Recent Advances and State-of-the-Art in Discontinuous Galerkin Methods in Computational Structural Mechanics, Minneapolis MN, USA, October 28–29, 2003.

35. I. Perugia, *Discontinuous Galerkin methods for the Maxwell operator*, Workshop on "Problems in Electromagnetism", Trento, Italy, November 29–30, 2002, organized by F. Bagagiolo, A. Valli and A. Visintin.

36. P. Houston, I. Perugia and D. Schötzau, *Discontinuous Galerkin methods for Maxwell's equations*, 12th ECMI Conference - the European Consortium for Mathematics in Industry, Jurmala, Latvia, September 10–14, 2002 (invited talk within the Minisymposium on Topics in Electromagnetics, organized by W. Schilders).

37. I. Perugia and D. Schötzau, *Discontinuous Galerkin discretization of time-harmonic Maxwell's equations in low and high–frequency regimes*, WCCM V - Fifth World Congress on Computational Mechanics, Vienna, Austria, July 7–12, 2002 (invited talk within the Minisymposium on Discontinuous Galerkin Methods, organized by B. Cockburn, C. Dawson and B. Rivière).

38. I. Perugia, *Discontinuous Galerkin methods for time-harmonic Maxwell's equations*, Oberwolfach Meeting on "Discontinuous Galerkin Methods", Oberwolfach, Germany, April 22–26, 2002.

39. I. Perugia and D. Schötzau, hp–*local discontinuous Galerkin methods for low-frequency time-harmonic Maxwell's equations*, IV European Conference on Numerical Mathematics and Advanced Applications ENUMATH, Ischia Porto, Italy, July 23–28, 2001 (invited talk within the Minisymposium on Discontinuous Galerkin Finite Element Methods, organized by G. Kanschat and E. Süli).

40. P. Alotto, I. Perugia and V. Simoncini, *An adaptive field-based method for magnetostatic problems*, IV International Congress on Industrial and Applied Mathematics ICIAM, Edinburgh, UK, July 5–9, 1999 (invited talk within the Minisymposium on Mathematical Modeling of Electromagnetics, organized by H. Hammari and G. Bao).

41. I. Perugia, *A mixed formulation for magnetostatics: theoretical and numerical aspects*, IV International Congress on Industrial and Applied Mathematics ICIAM, Edinburgh, UK, July 5–9, 1999 (invited talk within the Minisymposium on Finite Element Models in Low Frequency Electromagnetics, organized by P. Fernandes).

Other Lectures

1. I. Perugia, *Space-time Trefftz discontinuous Galerkin methods for wave problems*, 2nd Workshop on CENTRAL Trends in Analysis and Numerics for PDEs, Prague, Czech Republic, May 26–28, 2016.

2. I. Perugia, *A Plane Wave Virtual Element Method for the Helmholtz Problem*, The 13th European Finite Element Fair, Prague, Czech Republic, June 5–6, 2015.

3. I. Perugia, *A Plane Wave Virtual Element Method for the Helmholtz Problem*, Austrian Numerical Analysis Day, Linz, May 6–8, 2015.

4. I. Perugia, *Non standard finite element methods*, Winter Workshop Doctoral Program "Dissipation and Dispersion in Nonlinear PDE's", Universität Wien and TU Wien, Schloss Hernstein, Wien, January 16–17, 2014.

5. I. Perugia, *Trefftz-Discontinuous Galerkin Methods for Acoustic Scattering - Recent Advances*, The 11th European Finite Element Fair, Heraklion, Greece, May 31–June 1st, 2013.

6. I. Perugia, *Trefftz-Discontinuous Galerkin Methods for Acoustic Scattering*, The 10th European Finite Element Fair, Bilbao, Spain, June 8–9, 2012.

7. R. Hiptmair, A. Moiola and I. Perugia, *Plane wave discontinuous Galerkin methods for the Helmholtz problem*, The 7th European Finite Element Fair, Helsinki, Finland, June 5–6, 2009.

8. R. Hiptmair, A. Moiola and I. Perugia, *Metodi plane wave discontinuous Galerkin per il problema di Helmholtz*, Convegno del Gruppo Nazionale di Calcolo Scientifico dell'INdAM, Montecatini Terme, Italy, February 3–5, 2009.

9. I. Perugia, *Plane wave discontinuous Galerkin methods*, The 6th European Finite Element Fair, Göteborg, Sweden, May 30–31, 2008.

10. I. Perugia, *Elementi finiti discontinui per equazioni di Maxwell*, Workshop del Progetto Integruppo INdAM 2004 "Metodi Numerici per lo studio di problemi evolutivi multiscala", Milano, Italy, February 21–22, 2005.

11. P. Houston, I. Perugia and D. Schötzau, *Discontinuous Galerkin methods for Maxwell's equations in frequency-domain* (poster), IMA "Hot Topics" Workshop on Compatible Spatial Discretizations for Partial Differential Equations Minneapolis MN, USA, May 11–15, 2004.

12. P. Hansbo, C. Lovadina I. Perugia e G. Sangalli, *A Lagrange multiplier method for finite elements on non-matching meshes*, VII Congresso Nazionale della SIMAI (Società Italiana di Matematica Applicata e Industriale), San Servolo, Venezia, Italy, September 20–24, 2004.

13. I. Perugia, *Discontinuous Galerkin methods for the time-harmonic Maxwell equations*, The 2nd European Finite Element Fair, Berlin, Germany, June 4–5, 2004.

14. I. Perugia, *Metodi discontinuous Galerkin per le equazioni di Maxwell time-harmonic*, Convegno del Gruppo Nazionale di Calcolo Scientifico dell'INdAM, Montecatini Terme, Italy, February 9–11, 2004.

15. I. Perugia, *Elementi finiti non conformi per equazioni di Maxwell time-harmonic in regime di bassa frequenza*, XVII Congresso dell'UMI (Unione Matematica Italiana), Milano, Italy, September 8–13, 2003.

16. P. Alotto and I. Perugia, *Matrix properties of a vector potential cell method for magnetostatics* (poster) XIV COMPUMAG Conference on Computation of Electromagnetic Fields, Saratoga Springs NY, USA, July 13–17, 2003.

17. I. Perugia, *Solution of Maxwell's equations with discontinuous Galerkin methods in the time-harmonic case*, VI Congresso Nazionale della SIMAI (Società Italiana di Matematica Applicata e Industriale), Chia Laguna, Italy, May 27–31, 2002.

18. I. Perugia and V. Simoncini, *Preconditioners for a mixed finite element method in magnetostatics*, International Conference on Preconditioning Techniques for Large Sparse Matrix Problems in Industrial Applications, Minneapolis MN, USA, June 10–12, 1999.

19. P. Alotto and I. Perugia, *An adaptive mixed formulation and code for 3D magnetostatics*, VIII International IGTE Symposium on Numerical Field Calculation in Electrical Engineering, Graz, Austria, September, 21–24, 1998.

20. I. Perugia, *Un metodo agli elementi finiti di tipo misto per il problema magnetostatico*, Convegno Nazionale di Analisi Numerica, Montecatini Terme, Italy, April 15–17, 1998.

21. P. Alotto, F. Delfino, P. Molfino, M. Nervi and I. Perugia, *A mixed face-edge finite element formulation for 3D magnetostatic problems* (poster), XI COMPUMAG Conference on Computation of Electromagnetic Fields, Rio de Janeiro, Brazil, November, 2–6, 1997.

22. P. Di Barba, A. Savini and I. Perugia, *Mixed finite elements for the simulation of fields and forces in electromagnetic devices* (poster), XI COMPUMAG Conference on Computation of Electromagnetic Fields, Rio de Janeiro, Brazil, November, 2–6, 1997.

23. P. Di Barba, L. D. Marini, I. Perugia e A. Savini, *Applicazione di elementi finiti misti alla magnetostatica bidimensionale*, III Congresso Nazionale della SIMAI (Società Italiana di Matematica Applicata e Industriale), Salice Terme, Italy, May 27–31, 1996.

24. I. Perugia, *Formulazione mista del problema magnetostatico*, III Congresso Nazionale della SIMAI (Società Italiana di Matematica Applicata e Industriale), Salice Terme, Italy, May 27–31, 1996.

25. D. Boffi e I. Perugia, *Elementi finiti bi- e tridimensionali per il problema di Stokes*, Convegno Nazionale di Analisi Numerica, Montecatini Terme, Italy, April 27–29, 1994.

Series of Lectures within International Schools

1. Zürich Summer School': "Eigenvalue Problems", Universität Zürich, August 25–29, 2008.

2. CEA-EDF-INRIA School "École des Ondes": Discontinuous Galerkin (DG) methods for the wave equations, INRIA Rocquencourt, November 27–December 1, 2006.

Invited Seminar Talks

1. Zurich Colloquium in Applied and Computational Mathematics, ETH Zürich, May 18, 2016.

2. Institut für Numerische Mathematik, Technische Universität Graz, December 9, 2015.

3. Fachbereich Mathematik, Technische Universität Darmstadt July 6, 2015.

4. Mathematics Colloquium, Universität Bern, May 5, 2014.

5. Institut für Mathematik, Humboldt-Universität, Berlin, July 27, 2011.

6. Dipartimento di Matematica, Politecnico di Torino, July 16, 2009.

7. Special day of the Seminario di Matematica Applicata on "Robustness of a posteriori error estimators", Università degli Studi di Milano, September 18, 2007.

8. EUCOR Seminar, Universität Basel, November 23, 2006,

9. Applied Mathematics Seminar, University of Leicester, May 29, 2003.

10. IRMAR, Université de Rennes, France, March 20, 2003.

11. Fachbereich Mathematik und Informatik, Universität Mainz, February 5, 2003.

12. Dipartimento di Ingegneria Strutturale, Politecnico di Milano, November 8, 2002.

13. Institut für Angewandte Mathematik, Universität Heidelberg, June 17, 2002.

14. Seminari di Matematica Applicata, Università di Pavia, October 3, 2001.

15. IMA Post-Doc Seminar, University of Minnesota, May 8, 2001.

16. Applied Mathematics and Numerical Analysis Seminar, University of Minnesota, November 9, 2000.

17. Department of Computer Science, Stanford University, July 13, 2000.

18. Applied Mathematics and Numerical Analysis Seminar, University of Minnesota, October 7, 1999.

Oberwolfach Meetings Attended

1. "Computational Engineering", organized by S.C. Brenner, C. Carstensen, L. Demkowicz, and P. Wriggers, September 27–October 3, 2015.

2. "Theory and Applications of Discontinuous Galerkin Methods", organized by S.C. Brenner, W.R. Hoppe, and B. Rivière, February 19–25, 2012.

3. "Computational Electromagnetism and Acoustics" organized by R. Hiptmair, W.R. Hoppe, P. Joly and U. Langer, February 14–20, 2010

4. "Nonstandard Finite Element Methods", organized by S.C. Brenner, C. Carstensen and P. Monk, August 10–16, 2008

5. "Computational Electromagnetism and Acoustics", organized by R. Hiptmair, W.R. Hoppe, P. Joly and U. Langer, February 4–10, 2007

6. "Computational Electromagnetism", organized by R. Hiptmair, W.R. Hoppe and U. Langer, February 22–28, 2004

7. "Discontinuous Galerkin Methods", organized by D. Kröner, C. Schwab and E. Süli, April 22–26, 2002

Teaching Activity

SS 2017   Numerical Methods for Partial Differential Equations (Studienprogrammleitung Mathematik, Universität Wien)
bung zu Angewandte Mathematik fr das Lehramt (Studienprogrammleitung Mathematik, Universität Wien)

WS 2016   Numerische Methoden zur Lösung von Differenzialgleichungen (Studienprogrammleitung Informatik und Wirtschaftsinformatik, Universität Wien)
Numerische Methoden für Differentialgleichungen (Studienprogrammleitung Mathematik, Universität Wien)
Seminar on Angewandte Analysis (Studienprogrammleitung Mathematik, Universität Wien)

SS 2016   Mathematische Modellierung und bung zu Mathematische Modellierung (Studienprogrammleitung Mathematik, Universität Wien)
Seminar on Applied PDEs (Studienprogrammleitung Mathematik Universität Wien)

WS 2015   Numerical Methods for Partial Differential Equations (Studienprogrammleitung Mathematik, Universität Wien)
Seminar on Applied PDEs (Studienprogrammleitung Mathematik, Universität Wien)

SS 2015   Numerical Methods for Partial Differential Equations (Studienprogrammleitung Mathematik, Universität Wien)

WS 2014   Numerical Methods for Partial Differential Equations 2 (Studienprogrammleitung Mathematik, Universität Wien)
Numerische Methoden zur Lösung von Differenzialgleichungen (Studienprogrammleitung Informatik und Wirtschaftsinformatik, Universität Wien)
Seminar on Angewandte Analysis (Studienprogrammleitung Mathematik, Universität Wien)

SS 2014   Numerical Methods for Partial Differential Equations (Studienprogrammleitung Mathematik, Universität Wien)
Seminar on Angewandte Analysis (Studienprogrammleitung Mathematik, Universität Wien)

WS 2013   Numerische Methoden zur Lösung von Differenzialgleichungen (Studienprogrammleitung Informatik und Wirtschaftsinformatik, Universität Wien)
Seminar on Applied Partial Differential Equations (Studienprogrammleitung Mathematik, Universität Wien)

2012–2013   Mathematics (for students in Biotechnologies, University of Pavia)
Finite Elements (for students in Mathematics, University of Pavia)

2011–2012   Mathematical Analysis and Computer Science (for students in Biotechnologies, University of Pavia)
Finite Elements (for students in Mathematics, University of Pavia)

2010–2011   Mathematical Analysis and Computer Science (for students in Biotechnologies, University of Pavia)
Finite Elements (for students in Mathematics, University of Pavia)
Numerical methods - Finite Element Analysis (International Master Course in Civil Engineering, University of Bologna)

2009–2010 Mathematical Analysis and Computer Science (for students in Biotechnologies, University of Pavia)
Finite Elements (for students in Mathematics, University of Pavia)

2008–2009 Mathematical Analysis and Computer Science (for students in Biotechnologies, University of Pavia)
Finite Elements (for students in Mathematics, University of Pavia)

2007–2008 Mathematical Analysis and Computer Science (for students in Biotechnologies, University of Pavia)
Finite Elements (for students in Mathematics, University of Pavia)
Classical Computational Methods (Master in Complexity and its Interdisciplinary Applications, University of Pavia)

2006–2007 Finite Elements (for students in Mathematics, University of Pavia)
Mathematics and Statistics applied to Natural Sciences (for students in Natural Sciences and Technologies, University of Pavia)
Discontinuous Galerkin Methods (Graduate School in Mathematics, ETH Zürich)

2005–2006 Finite Elements (for students in Mathematics, University of Pavia)
Classical Computational Methods (Master in Complexity and its Interdisciplinary Applications, University of Pavia)

2004–2005 Discontinuous Galerkin finite element methods (Ph.D in Mathematics and Statistics for Computational Sciences, University of Milano) Mathematical Analysis and Computer Science (for students in Biotechnologies, University of Pavia)
Finite Elements (for students in Mathematics, University of Pavia)
Classical Computational Methods (Master in Complexity and its Interdisciplinary Applications, University of Pavia)

2003–2004 Mathematical Analysis and Computer Science (for students in Biotechnologies, University of Pavia)
Numerical Approximation Methods (for students in Mathematics and students of the Ph.D. Program in Mathematics and Statistics, University of Pavia)
Classical Computational Methods (Master in Complexity and its Interdisciplinary Applications, University of Pavia)

2002–2003 Mathematical Analysis and Computer Science (for students in Biotechnologies, University of Pavia) Numerical Modeling (for students in Mathematics, University of Pavia)
Finite Elements for Mechanics of Continuum and Structures (Master in Computer Aided Structural Design, University of Pavia)

2001–2002 Mathematical Analysis and Computer Science (for students in Biotechnologies, University of Pavia)
Numerical Analysis, part II (for students in Mathematics, University of Pavia)

2000–2001 Short Calculus (Math 1142, University of Minnesota)

1999-2000 Precalculus II (Math 1151, University of Minnesota)

1995–1999 Assistant Professor of Numerical Analysis (for students in Mathematics, University of Pavia)

1993–1995 Teaching Assistant for courses of Mathematical Analysis (for students in Engineering and in Physics, University of Pavia)

Student Advising

PhD Students

1. Alexander Pichler (ongoing)

2. Andrea Moiola, "Trefftz-discontinuous Galerkin methods for time-harmonic wave problems", ETH Zürich, September 15, 2011 (co-advisor; advisor: Ralf Hiptmair); current position of A. Moiola: Post-doc at the Department of Mathematics and Statistics of the Reading University

3. Paola F. Antonietti, "Domain decomposition, spectral correctness and numerical testing of discontinuous Galerkin methods", Pavia, January 19, 2007 (co-advisor: A. Buffa); current position of P. Antonietti: Associate Professor of Numerical Analysis at MOX - Politecnico di Milano

4. Daniele Marazzina, "Stability properties of discontinuous Galerkin methods", Pavia, January 19, 2007; current position of D. Marazzina: Researcher of Financial Mathematics at the Dipartimento di Matematica, Politecnico di Milano

Laurea Students (Master level)

1. Paul Stocker (ongoing)

2. Oliver Skoček, "Constructive Rellich-Compactness", Vienna, 28.05.2015

3. Davide Zaliani, "Schwarz preconditioners for plane wave discontinuous Galerkin approximations of the Helmholtz problem", Pavia, 24.09.2013

4. Michele Ruggeri, "Discontinuous Petrov Galerkin Method for acoustic scattering problems", Pavia, 16.04.2013

5. Paolo Pacciarini, "Stabilized reduced basis method for parametrized advection-diffusion PDE's" (co-advisor G. Rozza), Pavia, 24.09.2012

6. Alessandra Coletti, "Plane wave discontinuous Galerkin methods for the Helmholtz problem", Pavia, 24.09.2012

7. Nadia Bigoni, "Mimetic finite differences for elliptic problems", (co-advisor G. Manzini), Pavia, 13.07.2010

8. Elisa Varini, "Finite element methods for advection-diffusion problems", Pavia, 27.04.2010

9. Gabriella Pocalana, "Finite element approximation of eigenvalue problems in electromagnetics", Diploma IUSS - Istituto Universitario di Studi Superiori, Pavia, 19.05.2009.

10. Andrea Bressan, "Isogeometric finite elements for the Stokes problem" (co-advisor G. Sangalli), Pavia, 28.04.2009

11. Domenico Reggiori, "Discontinuous finite elements for the Maxwell eigenvalue problem", Pavia, 16.09.2008

12. Andrea Moiola, "Analysis of the plane wave discontinuous Galerkin method for the Helmholtz problem", Pavia, 15.07.2008

13. Maurizio Siletti, "Finite element approximation of a relaxation scheme for the heat equation", Pavia, 15.07.2008

14. Lucia Ferrari, "Analysis of the deformation of an incompressible elastic disk: numerical simulation and material parameters identification" Pavia, 19.12.2006 (co-advisors C. Lovadina e P. Colli Franzone)

15. Paola F. Antonietti, "The interior penalty method for the Poisson problem", Pavia, 19.9.2003

16. Daniele Marazzina, "The local discontinuous Galerkin method for elliptic problems", Pavia, 19.9.2003

17. Nadia Abbà, "A teaching project using the software DERIVE for integral calculus", Pavia, 27.3.2003

Professional Activity

<u>Editorial Boards</u>

      Associate Editor of *SIAM Journal on Scientific Computing*

<u>Evaluation and Prize Committees</u>

1. Member of the Evaluation Committee of the Mathematics Department, University of Besançon, 2015

2. Member of the Committee for the ECCOMAS PhD Award, 2015

<u>Reviewer</u>

1. Reviewer for the "Knowledge Foundation", Sweden

2. Reviewer for the Hong Kong Research Grants Council

3. Reviewer for the Italian MIUR

4. Reviewer for the Swiss National Science Foundation (SNSF)

5. Reviewer for the Natural Sciences and Engineering Research Council of Canada (NSERC)

<u>External Member of PhD Committees</u>

1. Lorenzo Tamellini, "Polynomial approximation of PDEs with stochastic coefficients" Politecnico di Milano, 26.03.2012

2. Ilario Mazzieri, "Non-conforming high order methods for the elastodynamics equation", Politecnico di Milano, 26.03.2012

3. Andrea Moiola, "Trefftz-discontinuous Galerkin methods for time-harmonic wave problems" ETH Zürich, 15.09.2011

4. Marilena Munteanu, "Domain decomposition methods for nonlinear reaction-diffusion problems", Univeristà di Milano, 03.03.2008

5. Anna Schneebeli, "Interior penalty discontinuous Galerkin methods for electromagnetic and acoustic wave equations", Universität Basel, 06.07.2006

<u>Referee</u>

      Math. Comp., SIAM J. Numer. Anal., SIAM J. Sci. Comp., Numer. Math., Math. Mod. Meth. Appl. Sci., IMA J. Numer. Anal., M2AN Math. Model. Numer. Anal., Numer. Methods Partial Differential Equations, J. Comp. Appl. Math., J. Sci. Comp., J. Appl. Math., Comput. Math. Appl., Appl. Math. Letters, J. Comput. Phys., Comput. Methods Appl. Mech. Engrg., Int. J. Numer. Anal. Mod. Comput. Struct., IEEE Trans. on Magnetics

<u>Organization of Workshops, Seminars and Conference Sessions</u>

      ESI Thematic Programme "Numerical Analysis of Complex PDE Models in the Sciences", Vienna, June 11-August 17, 2018 (with Annalisa Buffa, Tom Hou, Markus Melenk, and Christoph Schwab).

      Session on "Scientific Computing" at the Österreicher Mathematische Gesellschaft ÖMG - Deutsche Mathematiker-Vereinigung DMV Congress, Salzburg, September 11–15, 2017 (with Steffen Börm).

"Workshop on CENTRAL Trends in PDEs" Vienna, November 12-13, 2015.

"1st CENTRAL School on Analysis and Numerics for Partial Differential Equations", Vienna, November 9-12, 2015.

Member of the Organizing Committee of the 12th European Finite Element Fair, Vienna, May 30–31, 2014.

Member of the Organizing Committee of the Austrian Numerical Analysis Day 2014, Vienna, May 29–30, 2014.

Minisymposium "Computational challenges in Discontinuous Galerkin methods" within MAFELAP 2013 - The Mathematics of Finite Elements and Applications, June 11–14, 2013, Brunel University, West London, UK

International Course on "Discontinuous Galerkin Finite Element Methods", instructors: Bernardo Cockburn, Paul Houston, Endre Süli, Pavia, May 28¬June 1st, 2012.

INdAM Workshop "Non-Standard Numerical Methods for PDE's", Pavia, June 29¬July 2, 2010.

Minisymposium "Non-polynomial FEM for time-harmonic wave equations" within MAFELAP 2009 - The Mathematics of Finite Elements and Applications, June 9–12, 2009, Brunel University, West London, UK

Minisymposium "Advances in Discontinuous Galerkin Methods" within the 6th International Congress on Industrial and Applied Mathematics ICIAM 2007, July 16–20, 2007, Zürich, Switzerland

Minisymposium "A posteriori error estimation and adaptivity" within MAFELAP 2006 - The Mathematics of Finite Elements and Applications, June 13–16, 2006, Brunel University, West London, UK

Organizer of the "Applied Mathematics Seminar" of the Department of Mathematics and IMATI-CNR, Pavia (from 2003 to 2006)

Member of the Organizing Committee of the 3rd European Finite Element Fair, June 3–4, 2005, Pavia

Minisymposium " Advances in Discontinuous Galerkin Methods" within the European Conference on Numerical Mathematics and Advanced Applications ENUMATH, August 18–22, 2003, Prague, Czech Republic

Funding

FWF Special Reasearch Program (SFB) "Taming complexity in partial differential systems" (project part leader; speaker: Ulisse Stefanelli; approved)

FWF DK-Doctoral School "Dissipation and dispersion in nonlinear partial differential equations" (faculty member; speaker: Ansgar Jüngel; approved)

ESI Thematic Programme "Numerical Analysis of Complex PDE Models in the Sciences" (to be held in 2018)

FWF Stand-Alone Project "Trefftz-based approximation of time-harmonic wave problems" (2016-2019)

DAAD Central European Network for Teaching and Research in Academic Liaison (CENTRAL) "Analysis and Numerics for Partial Differential Equations" (2015-2017)

WWTF Project "Elastic wave interaction with underground cavities" (2015-2017)

PRIN-MIUR project "Innovative methodologies for PDE-based numerical modelling" (responsible of unit; coordinator: Claudio Canuto, 2014-2017)

PRIN-MIUR Project "Models, Methods and Scientific Computing" (participant; coordinator: Alfio Quarteroni, 2011-2013)

INdAM Intensive Period "Innovative Numerical Methods for PDE's" (2010)

GNCS Research Project "Non standard numerical methods for PDE's" (2010)

FIRB-MIUR project "Isogeometric Discretizations in Continuum Mechanics" (participant; coordinator: Giancarlo Sangalli, 2010-2014)

Vigoni Project "Balance models for higher order moments for semiconductor devices: modelling and simulation" (2004-2006)

FIRB-MIUR project "Metodi avanzati di previsione e ottimizzazione della distribuzione di campo elettromagnetico per sistemi di telefonia mobile cellulare GSM e UMTS" (participant; coordinator: Paola Girdinio, 2000-2003)

Participant in PRIN (formerly COFIN) projects since 1994

Publications

<u>Technical Reports</u>

1. A. Moiola and I. Perugia, *A space-time Trefftz discontinuous Galerkin method for the first-order acoustic wave equations*, preprint arXiv:1610.08002 [math.NA].

2. F. Bonizzoni, F. Nobile and I. Perugia, *Convergence analysis of Pad approximations for Helmholtz frequency response problems*, MATHISCE Report 24.2016, EPFL Lausanne.

<u>Book Chapters</u>

1. R. Hiptmair, A. Moiola and I. Perugia, *A Survey of Trefftz Methods for the Helmholtz Equation*, in Barrenechea, G. R., Cangiani, A., Geogoulis, E. H. (Eds.), "Building Bridges: Connections and Challenges in Modern Approaches to Numerical Partial Differential Equations", Lecture Notes in Computational Science and Engineering (LNCSE), Volume 114, 2016, Pages 237-278, Springer.

<u>Refereed Articles</u>

1. I. Perugia, P. Pietra and A. Russo, *A Plane Wave Virtual Element Method for the Helmholtz Problem*, ESAIM: Math. Model. Numer. Anal., 50 (2016), 783-808.

2. F. Kretzschmar, A. Moiola, I. Perugia and S. M. Schnepp, *A priori error analysis of space-time Trefftz discontinuous Galerkin methods for wave problems*, IMA J. Numer. Anal., 36 (2016), 1599-1635.

3. R. Hiptmair, A. Moiola and I. Perugia, *Plane Wave Discontinuous Galerkin Methods: Exponential Convergence of the hp-version*, Found. Comp. Math., 16 (2016), 637-675.

4. R. Hiptmair, A. Moiola, I. Perugia and Ch. Schwab, *Approximation by harmonic polynomials in star-shaped domains and exponential convergence of Trefftz hp-DGFEM*, M2AN Math. Model. Numer. Anal., 48 (2014), 727-752.

5. R. Hiptmair, A. Moiola and I. Perugia, *Trefftz discontinuous Galerkin methods for acoustic scattering on locally refined meshes*, Appl. Numer. Math., 79 (2014), 79-91.

6. R. Hiptmair, A. Moiola and I. Perugia, *Error analysis of Trefftz-discontinuous Galerkin methods for the time-harmonic Maxwell equations*, Math. Comp., 82 (2013), 247-268.

7. F. Cavalli, G. Naldi and I. Perugia, *Discontinuous Galerkin approximation of relaxation models for linear and nonlinear diffusion equations*, SIAM J. Sci. Comput., 34 (2012), A105-A136.

8. R. Hiptmair, A. Moiola and I. Perugia, *Stability results for the time-harmonic Maxwell equations with impedance boundary conditions*, Math. Mod. Meth. Appl. Sci., 21 (2011), 2263-2287.

9. A. Moiola, R. Hiptmair and I. Perugia, *Plane wave approximation of homogeneous Helmholtz solutions*, Z. Angew. Math. Phys., 62 (2011), 809-837.

10. A. Moiola, R. Hiptmair and I. Perugia, *Vekua theory for the Helmholtz operator*, Z. Angew. Math. Phys., 62 (2011), 779-807.

11. R. Hiptmair, A. Moiola and I. Perugia, *Plane wave discontinuous Galerkin methods for the 2D Helmholtz equation: analysis of the p-version*, SIAM J. Numer. Anal., 49 (2011), 264-284.

12. A. Buffa, I. Perugia and T. Warburton, *The mortar-discontinuous Galerkin method for the 2D Maxwell eigenproblem*, J. Sci. Comp., 40 (2009), 86-114.

13. C. J. Gittelson, R. Hiptmair and I. Perugia, *Plane wave discontinuous Galerkin methods: Analysis of the h–version*, ESAIM Math. Model. Numer. Anal., 43 (2009), 297-331.

14. A. Buffa, P. Houston and I. Perugia, *Discontinuous Galerkin Computation of the Maxwell Eigenvalues on Simplicial Meshes*, J. Comput. Appl. Math., 204 (2007), 317-333.

15. P. Houston, I. Perugia and D. Schötzau, *An a posteriori error indicator for discontinuous Galerkin discretizations of H(curl)-elliptic partial differential equations*, IMA J. Numer. Anal., 27 (2007), 122-150.

16. A. Buffa and I. Perugia, *Discontinuous Galerkin approximation of the Maxwell eigenproblem*, SIAM J. Numer. Anal., 44 (2006), 2198-2226.

17. P. F. Antonietti, A. Buffa and I. Perugia, *Discontinuous Galerkin approximation of the Laplace eigenproblem*, Comput. Methods Appl. Mech. Engrg., 195 (2006), 3483-3503.

18. P. Houston, I. Perugia, A. Schneebeli and D. Schötzau, *Mixed discontinuous Galerkin approximation of the Maxwell operator: the indefinite case*, ESAIM Math. Model. Numer. Anal., 39 (2005), 727-753.

19. P. Houston, I. Perugia, A. Schneebeli and D. Schötzau, *Interior penalty method for the indefinite time-harmonic Maxwell equations*, Numer. Math., 100 (2005), 485–518.

20. P. Hansbo, C. Lovadina, I. Perugia and G. Sangalli, *A Lagrange multiplier method for the finite element solution of elliptic interface problems using non-matching meshes*, Numer. Math., 100 (2005), 91–115.

21. P. Houston, I. Perugia and D. Schötzau, *Energy norm a posteriori error estimation for mixed discontinuous Galerkin approximations of the Maxwell operator*, Comput. Methods Appl. Mech. Engrg., 194 (2005), 499–510.

22. P. Houston, I. Perugia and D. Schötzau, *Mixed discontinuous Galerkin approximation of the Maxwell operator: non-stabilized formulation*, J. Sci. Comp., 22 (2005), 325–356.

23. P. Alotto and I. Perugia, *Matrix Properties of a Vector Potential Cell Method for Magnetostatics*, IEEE Trans. on Magnetics, IEEE Trans. on Magnetics, 40 (2004), 1045-1048.

24. P. Houston, I. Perugia and D. Schötzau, *Nonconforming mixed finite element approximations to time-harmonic eddy current problems*, IEEE Trans. on Magnetics, 40 (2004), 1268-1273.

25. P. Houston, I. Perugia and D. Schötzau, *Mixed discontinuous Galerkin approximation of the Maxwell operator*, SIAM J. Numer. Anal., 42 (2004), 434-459.

26. I. Perugia and D. Schötzau, *The hp-local discontinuous Galerkin method for low-frequency time-harmonic Maxwell equations*, Math. Comp., 72 (2003), 1179-1214.

27. I. Perugia, D. Schötzau and P. Monk, *Stabilized interior penalty methods for the time-harmonic Maxwell equations*, Comp. Meth. Appl. Mech. Engrg., 191 (2002), 4675-4697.

28. P. Alotto, A. Bertoni, I. Perugia and D. Schötzau, *Efficient use of the Local Discontinuous Galerkin method for meshes sliding on a circular boundary*, IEEE Trans. on Magnetics, 38 (2002), 405-408.

29. I. Perugia and D. Schötzau, *An hp-analysis of the local discontinuous Galerkin method for diffusion problems*, J. Sci. Comp., 17 (2002), 561-571.

30. P. Castillo, B. Cockburn, I. Perugia and D. Schötzau, *Local discontinuous Galerkin method for elliptic problems*, Commun. Numer. Meth. Engrg., 18 (2002), 69-75.

31. I. Perugia and D. Schötzau, *On the coupling of local discontinuous Galerkin and conforming finite element methods*, J. Sci. Comp., 16 (2001), 411-433.

32. B. Cockburn, G. Kanschat, I. Perugia and D. Schötzau, *Superconvergence of the local discontinuous Galerkin method for elliptic problems on Cartesian grids*, SIAM J. Numer. Anal., 39 (2001), 264-285.

33. P. Alotto, A. Bertoni, I. Perugia and D. Schötzau, *Discontinuous finite element methods for the simulation of rotating electrical machines*, COMPEL, 20 (2001), 448-462.

34. P. Fernandes and I. Perugia, *Vector potential formulation for magnetostatics and modeling of permanent magnets*, IMA J. Appl. Math., 66 (2001), 293-318.

35. P. Castillo, B. Cockburn, I. Perugia and D. Schötzau, *An a priori error analysis of the Local Discontinuous Galerkin method for elliptic problems*, SIAM J. Numer. Anal., 38 (2000), 1676-1706.

36. I. Perugia and V. Simoncini, *Block-diagonal and indefinite symmetric preconditioners for mixed finite element formulations*, Numer. Linear Algebra Appl., 7 (2000), 585-616.

37. P. Alotto and I. Perugia, *Tree-cotree implicit condensation in Magnetostatics*, IEEE Trans. on Magnetics, 36 (2000), 1523-1526.

38. P. Alotto and I. Perugia, *A field-based finite element method for magnetostatics derived from an error minimisation approach*, Internat. J. Numer. Methods Engrg., 49 (2000), 573-598.

39. P. Alotto and I. Perugia, *An adaptive mixed formulation for 3D magnetostatics*, COMPEL, 19 (2000), 106-120.

40. P. Alotto and I. Perugia, *Mixed finite element methods and tree-cotree implicit condensation*, Calcolo, 36 (1999), 233-248.

41. I. Perugia, *A mixed formulation for 3D magnetostatic problems: theoretical analysis and face-edge finite element approximation*, Numer. Math., 84 (1999), 305-326.

42. I. Perugia, V. Simoncini and M. Arioli, *Linear algebra methods in a mixed approximation of magnetostatic problems*, SIAM J. Sci. Comput., 21 (1999), 1085-1101.

43. D. Boffi, P. Fernandes, L. Gastaldi and I. Perugia, *Computational models of electromagnetic resonators: analysis of edge element approximation*, SIAM J. Numer. Anal., 36 (1999), 1264-1290.

44. P. Alotto, F. Delfino, P. Molfino, M. Nervi and I. Perugia, *A mixed face-edge finite element formulation for 3D magnetostatic problems*, IEEE Trans. on Magnetics, 34 (1998), 2445-2448.

45. P. Di Barba, A. Savini and I. Perugia, *Mixed finite elements for the simulation of fields and forces in electromagnetic devices*, IEEE Trans. on Magnetics, 34 (1998), 3572-3575.

46. P. Di Barba, I. Perugia and A. Savini, *Recent Experiences on Mixed Finite Elements for 2D Simulation of Magnetic Fields*, COMPEL, 17 (1998), 674-681.

47. I. Perugia, *A field-based mixed formulation for the 2-D magnetostatic problem*, SIAM J. Numer. Anal., 34 (1997), 2382-2391.

48. I. Perugia and T. Scapolla, *Optimal rectangular MITC finite elements for Reissner-Mindlin plates*, Numer. Methods Partial Differential Equations, 13 (1997), 575-585.

49. F. Brezzi, P. Di Barba, L.D. Marini, I. Perugia and A. Savini, *A Novel Field-Based Mixed Formulation of Magnetostatics*, IEEE Trans. on Magnetics, 32 (1996), 635-638.

50. I. Perugia, *A class of quadrilateral finite elements for the Stokes problem*, Appl. Math. Lett, 6 (1993), 27-30.

Other Articles

1. P. Houston, I. Perugia and D. Schötzau, *Recent developments in Discontinuous Galerkin methods for the time-harmonic Maxwell equations*, International Compumag Society Newsletter, 11 (2004), 11-17.

2. C. Lovadina and I. Perugia, *Finite element methods for piezoelectric Reissner-Mindlin plates*, Rend. Ist. Lomb. Sez. A - Analisi Numerica, 129 (1995), 121-134.

Refereed Conference Proceedings

1. F. Kretzschmar, A. Moiola, I. Perugia and S. M. Schnepp, *The space-time Trefftz discontinuous Galerkin method for the wave equation*, Proceedings of Waves 2015 - The 12th International Conference on Mathematical and Numerical Aspects of Waves, Karlsruhe, Germany, July 20-24, 2015, pp. 140-141.

2. P. F. Antonietti, I. Perugia and D. Zaliani, *Schwarz domain decomposition preconditioners for plane wave discontinuous Galerkin methods*, Abdulle, A., Deparis, S., Kressner, D., Nobile, F., Picasso, M. (Eds.), Numerical Mathematics and Advanced Applications-ENUMATH 2013: Proceedings of ENUMATH 2013, the 10th European Conference on Numerical Mathematics and Advanced Applications, Lausanne, August 2013, LNCSE, Vol. 103. Springer, 2014, pp. 557-572.

3. R. Hiptmair, A. Moiola, I. Perugia and Ch. Schwab, *Trefftz-discontinuous Galerkin methods: hp-version and exponential convergence*, Proceedings of Waves 2013 - The 11th International Conference on Mathematical and Numerical Aspects of Waves, Gammarth, Tunisia, June 3-7, 2013, pp. 359-360.

4. G. Naldi, F. Cavalli and I. Perugia, *Discontinuous Galerkin approximation of porous Fisher-Kolmogorov equations*, Proceeding of SIMAI 2012, June 25, 2012-28, 2012, Torino, Italy, Comm. Appl. Ind. Math., 4 (2013).

5. R. Hiptmair and I. Perugia, *Mixed plane wave discontinuous Galerkin methods*, 18th International Conference on Domain Decomposition Methods, January 12-17, 2008, Jerusalem, Israel (Springer), pp. 51-62.

6. A. Buffa and I. Perugia, *Discontinuous Galerkin approximation of eigenvalue problems*, Proceeding of the Third M.I.T. Conference on Computational Fluid and Solid Mechanics, June 14-17, 2005, Cambridge MA, USA (Elsevier).

7. P. Houston, I. Perugia A. Schneebeli and D. Schötzau, *Discontinuous Galerkin methods for the time-harmonic Maxwell equations*, Proceedings of ENUMATH 2003 the European Conference on Numerical Mathematics and Advanced Applications, August 18–22, 2003, Prague, Czech Republic (Springer), pp. 483-492.

8. I. Perugia, D. Schötzau and J. Warsa, *On a discontinuous Galerkin method for radiation-diffusion problems*, Proceedings of ENUMATH 2003 the European Conference on Numerical Mathematics and Advanced Applications, August 18–22, 2003, Prague, Czech Republic (Springer), pp. 687-697.

9. P. Houston, I. Perugia and D. Schötzau, *Nonconforming mixed finite element approximations to time-harmonic eddy current problems*, Proceedings of XIV COMPUMAG Conference on Computation of Electromagnetic Fields, July 13–17, 2003, Saratoga Springs NY, USA.

10. P. Alotto, I. Perugia, *Matrix properties of a vector potential cell method for magnetostatics*, Proceedings of XIV COMPUMAG Conference on Computation of Electromagnetic Fields, July 13–17, 2003, Saratoga Springs NY, USA.

11. C. Lovadina, R. Nascimbene, I. Perugia and P. Venini, *Mixed methods for interface problems*, Proceeding of the Second MIT. Conference on Computational Fluid and Solid Mechanics, June 17–20, 2003, Cambridge MA, USA (Elsevier). pp. 2053-2056.

12. P. Houston, I. Perugia and D. Schötzau, *hp-DGFEM for Maxwell's equations*, Proceedings of ENUMATH 2001 the European Conference on Numerical Mathematics and Advanced Applications, July 23–28, 2001, Ischia Porto, Italy (Springer), pp. 785-794.

13. P. Alotto, A. Bertoni, I. Perugia and D. Schötzau, *Efficient use of the Local Discontinuous Galerkin method for meshes sliding on a circular boundary*, Proceedings of XIII COMPUMAG Conference on Computation of Electromagnetic Fields, July 2–5, 2001, Evian, France.

14. P. Alotto, A. Bertoni, I. Perugia and D. Schötzau, *Discontinuous Finite Element Methods for the Simulation of Rotating Electrical Machines*, IX International IGTE Symposium on Numerical Field Calculation in Electrical Engineering, September 11–14, 2000, Graz, Austria.

15. P. Alotto and I. Perugia, *Tree-cotree implicit condensation in magnetostatics*, Proceedings of XII COMPUMAG Conference on Computation of Electromagnetic Fields, October 25–28, 1999, Sapporo, Japan.

16. P. Alotto and I. Perugia, *An adaptive mixed formulation and code for 3D magnetostatics*, VIII International IGTE Symposium on Numerical Field Calculation in Electrical Engineering, September 21–24, 1998, Graz, Austria.

17. P. Alotto, F. Delfino, P. Molfino, M. Nervi and I. Perugia, *A mixed face-edge finite element formulation for 3D magnetostatic problem*, Proceedings of the XI COMPUMAG Conference on Computation of Electromagnetic Fields, November 2–6, 1997, Rio de Janeiro, Brasil.

18. P. Di Barba, A. Savini and I. Perugia, *Mixed finite elements for the simulation of fields and forces in electromagnetic devices*, Proceedings of the XI COMPUMAG Conference on Computation of Electromagnetic Fields, November 2–6, 1997, Rio de Janeiro, Brasil.

19. P. Di Barba, I. Perugia and A. Savini, *Recent Experiences on Mixed Finite Elements for 2D Simulation of Magnetic Fields*, Proceedings of the IX ISTET International Symposium on Theoretical Electrical Engineering, June 9–11, 1997, Palermo, Italy.

20. D. Boffi, P. Fernandes, L. Gastaldi and I. Perugia, *Edge approximation of eigenvalue problems arising from electromagnetics*, Proceedings of the Second ECCOMAS Conference on Numerical Methods in Engineering, September 9–13, 1996, Paris, France (John Wiley & Sons).

21. F. Brezzi, P. Di Barba, L.D. Marini, I. Perugia and A. Savini, *A Novel Field-Based Mixed Formulation of Magnetostatics*, Proceedings of the X COMPUMAG Conference on Computation of Electromagnetic Fields, July 10–13, 1995, Berlin, Germany.