

Antonio Huerta

Department of Applied Mathematics
Escola Tècnica Superior d'Enginyers de Camins, Canals i
Ports de Barcelona (ETSECCPB)
Universitat Politècnica de Catalunya (UPC)
Jordi Girona, 1, Mòdul C2 - UPC – Campus Nord
E-08034 Barcelona, Spain)

Phone:+34 93 401 69 16
Fax: +34 93 401 18 25
e-mail: antonio.huerta@upc.edu

Current position

Full professor of Applied Mathematics, Universitat Politècnica de Catalunya

Education

Civil Engineering, Escola Tècnica Superior d'Enginyers de Camins, Canals i Ports de Barcelona (1983)
Ph. D. Northwestern University (USA) (1987)

Research Interests

Computational methods in applied sciences and engineering.
Finite elements, nonlinear computational mechanics.
Incompressible flows with boundary motion, convection-diffusion.
Error estimation and adaptivity

Career

Chairman, Department of Applied Mathematics III, UPC (May 1998 - January 2004)
Full professor of Applied Mathematics, Universitat Politècnica de Catalunya, since 1993
Visiting Professor, Institut Universitaire de France, 2003
Visiting Professor, École Centrale de Nantes, 2002
Visiting Scientist, Ispra, European Communities Commission, 1990
Assistant Professor, Universitat Politècnica de Catalunya, 1987-93
Research Fellow, Northwestern University (USA), 1986-87
Research Assistant, Northwestern University (USA), 1984-86
CIRIT Fellowship, Northwestern University (USA), 1983-84

Honors and awards

Fellow of the International Association of Computational Mechanics, 2002
Director of the high-quality and stable research group on "Numerical Methods in Applied Sciences and Engineering", Generalitat de Catalunya, 1999 – 2001 and 2002 – 2004.
Thomas A. Jaeger Prize, Int. Association for Structural Mechanics in Reactor Technology, 1989
Royal E. Cabell Fellowship, Northwestern University, USA, 1986

Professional activities

Editorial boards

International Journal for Numerical Methods in Fluids, since 2005
International Journal for Numerical Methods in Engineering, John Wiley & Sons, 2001
International Journal for Numerical and Analytical Methods in Geomechanics, John Wiley, 2001
Mechanics of Cohesive-frictional Materials, John Wiley & Sons, 1995 - 2000
Revista de Obras Públicas, Colegio de Ingenieros de Caminos, Canales y Puertos, 1997
Journal of Engineering Mathematics, Kluwer, 1996 (Board of associated referees)
Revista Internacional de Métodos Numéricos en Ingeniería, Universitat Politècnica de Catalunya, 1993

Community services

Scientific Council, Centre de Recerca Matemàtica (CRM) since 2002
Executive Council, Centro Internacional de Métodos Numéricos en Ingeniería (CIMNE) since 2000
Executive Committee, Sociedad Española de Métodos Numéricos en Ingeniería (SEMNI) since 1993

University services

Member of the University Senate, since 2005
Boards of Trustees of the Universitat Politècnica de Catalunya (February 2001 – April 2002)

Vice-Chair of the Council of Heads of Department (January 2001 – April 2002)
Board of Governors of the Universitat Politècnica de Catalunya (March 1997 – May 1998 and March 1998 – April 2002).
Doctoral Committee Member of the Universitat Politècnica de Catalunya (June 1996 – July 2000).

Summary of journal publications

Journal	Impact factor	Number of papers
International Journal for Numerical Methods in Engineering	1,691	13
Computer Methods in Applied Mechanics and Engineering	1,252	18
Journal of Engineering Mechanics, ASCE	0,719	4
Other indexed journals		21
Other papers in refereed journals		17

Selected publications (max. 5)

Huerta A, Liu W.K., "Viscous-flow with large free-surface motion". Computer Methods in Applied Mechanics and Engineering, 1988 (83 times cited)

Huerta A, Pijaudier-Cabot G, "Discretization influence on regularization by two localization limiters". Journal of Engineering Mechanics-ASCE, 1994 (25 times cited)

Huerta A, Fernández-Méndez S, "Enrichment and coupling of the finite element and meshless methods", International Journal for Numerical methods in Engineering, 2000 (24 times cited)

Pijaudier-Cabot G, Bode L, Huerta A, "Arbitrary Lagrangian-Eulerian finite-element analysis of strain localization in transient problems". International Journal for Numerical Methods in Engineering, 1995 (22 times cited)

Donea, J. and Huerta, A., The Finite Element Method for Flow Problems (ISBN: 0471 49666 9), 2003, John Wiley & Sons, Chichester (UK)

Other relevant information

Workshop and Conference Committees

Scientific Committee

- 1st and 2nd. International Conference in Adaptive Modeling and Simulation (ADMOS), 2003 and 2005
- 4th and 5th ECCOMAS Conference on Numerical Methods in Engineering, 2002 and 2004
- 2nd, 3rd, 4th, 5th, 6th, 7th and 8th Int. Conf. on Computational Plasticity fundamentals and applications, 1989, 1991, 1995, 1997, 2000, 2003 and 2005
- 8th, 9th, and 10th Int. Conf. on Finite Elements in Fluids new trends and applications, 1993, 1995, 2000
- XIV Congreso de Ecuaciones Diferenciales y Aplicaciones (CEDYA), IV Congreso de Matemática Aplicada, 1995
- 4th World Congress on Computational Mechanics, 1998

Program Committee

- 2^{on}, 3rd, 4th, 5th and 6th Congreso de Métodos Numéricos en Ingeniería, 1993, 1996, 1999, 2002, 2004 and 2005
- II Congreso Internacional de Métodos Numéricos en Ingeniería, 2002 (Guanajuato, México)

Organizing Committee

- 4th Int. Symp. on Computer Aided Design in Architecture and Civil Engineering, 1993
- 3rd ECCOMAS Conference on Numerical Methods in Engineering, 2000

Editorial Works

Schreyer, H.L., Armero, F. and Huerta, A., "The Theory and Prediction of Localized Failure in Materials", *Mechanics of Cohesive-Frictional Materials* (ISSN 1082-5010), Vol. 4 issue 2, 99-194, John Wiley & Sons, Chichester (UK), 1999

Breitkopf, P. and Huerta, A, "Meshfree and Particle Methods" *Revue Européenne des Éléments Finits (European J. of Finite Elements)*, Vol. 11, Issue 7-8, 2002

Huerta, A. and Rodríguez-Ferran, A Special Issue on "Arbitrary Lagrangian-Eulerian Formulation", *Computer Methods in Applied Mechanics and Engineering* (ISSN 0045-7825), Vol 193, Issues 39 – 41, 2004