

PERSONAL INFORMATION

Andrea Cangiani



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Male | Date of birth 21/01/1972 | Italian

Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input type="checkbox"/> Full professor	<input type="checkbox"/> Research Director and 1st level Technologist / First Researcher and 2nd level Technologist
<input type="checkbox"/> Mid-Management Level	<input checked="" type="checkbox"/> Associate Professor	<input type="checkbox"/> Level III Researcher and Technologist
<input type="checkbox"/> Employee / worker level	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

WORK EXPERIENCE

- Oct 2020 - now **Associate Professor in Numerical Analysis** Mathematics Area, SISSA - International School for Advanced Studies, Trieste – Italy.
- Jan 2019 – Jul 2020 **Associate Professor in Numerical Analysis** School of Mathematical Sciences, University of Nottingham, Nottingham – UK.
- Aug 2017 – Dec 2018 **Associate Professor in Numerical Analysis** Department of Mathematics, University of Leicester, Leicester – UK.
- Oct 2010 – Jul 2017 **Lecturer in Numerical Analysis** Department of Mathematics, University of Leicester, Leicester – UK.
- Feb 2009 – Sept 2010 **Research Fellow** Department of Mathematics and Applications, Università di Milan Bicocca, Milan – Italy.
- Oct 2006 – Jan 2009 **Research Associate** Istituto per le Applicazioni del Calcolo (IAC), CNR, Rome – Italy. Research associate for the EU-FP6 project *Drug Design for Cardiovascular Diseases*.
- Oct 2006 – Jan 2009 **Research Associate** Dipartimento di Matematica, Università di Pavia, Pavia – Italy. Research associate for the Italian Research Council project *Advanced Numerical Methods for Maxwell Equations*.

EDUCATION AND TRAINING

- 2004 **D.Phil in Numerical Analysis** Computing Laboratory, University of Oxford – UK. Thesis: *The Residual-Free Bubble Method for Problems with Multiple Scales*.
- 2000 **M.Sc. in Mathematical Modelling and Scientific Computing** Computing Laboratory, University of Oxford – UK. Dissertation: *Implied Volatility Estimation using Adjoint Monte Carlo Methods*.
- 19999 **Associate Professor in Numerical Analysis** Department of Mathematics, University of Leicester, Leicester – UK. Tesi: *Domain decomposition methods for Maxwell Equations*.

GRANTS

- 2020 **LMS RESEARCH SCHOOL** Adaptive Methods & mOdel Reduction (AMOR), £15K.
- 2019 **MRC-Newton Fund Grant MR/T017988/1**. LOnG-Term anatomical fluid dynamics for new Univentricular heartS palliation (LOTUS), 2019-2021. £398K.
- 2014 **EPSRC FIRST GRANT EP/L022745/1**. Virtual Element Method (VEM), 2014-2016. £122K.
- 2014 **LMS-EPSRC Durham Symposia Grant & Numerical Algorithms and Intelligent Software (NAIS)**. Durham Symposium *Mathematics Building Bridges: Connections and Challenges in Modern Approaches to Numerical Partial Differential Equations*, £70K+10K.
- 2012 **British Geological Survey & College of Science and Engineering**. PhD scholarship on Earth mantle convection simulations, 2012-2016. £36K+36K.

AWARDS

- 2001 **EPSRC PhD Fellowship** (Engineering and Physical Sciences Research Council), UK.
 2001 **INdAM PhD Scholarship** (National Institute of Higher Mathematics), Italy.
 2000 **Nuclear Electric Prize** Top student M.Sc. Degree in Math. Mod. and Sci. Comp., University of Oxford.

EDITORIAL DUTIES

- Editor Journal of Algorithms and Computational Technology.
 Reviewer SIAM Journal on Numerical Analysis, Numerische Mathematik, Mathematics of Computation, IMA Journal of Numerical Analysis, Journal of Scientific Computing, SIAM Journal on Scientific Computing, Journal of Computational and Applied Mathematics, Numerical Methods for Partial Differential Equations, Mathematical Modelling and Numerical Analysis, Computers and Mathematics with Applications, Bulletin of Mathematical Biology, Ecological Complexity.

PROFESSIONAL MEMBERSH

- 2022 - now Societa Italiana di Matematica Applicata e Industriale (SIMAI), Italy
 2017 - 2021 London Mathematical Society (LMS), UK.
 2012 - 2020 Institute of Mathematics & its Applications (IMA), UK.
 2005 - 2010 Italian National Group of Scientific Computing (GNCS), Italy.

PERSONAL SKILLS

- Languages Italian (mother tongue), English.
- Academic Qualifications Italian Nazionale Scientific Abilitation Full Professor (Abilitazione Professore prima fascia) – 2019.
 Italian Nazionale Scientific Abilitation Associate Professor (Abilitazione Professore seconda fascia) – 2013.
 Fellow of the Higher Education Academy, UK – 2013.
 Honorary Fellowship (Cultore della Materia) in Mathematical Analysis, Universita di Pavia – 2004.
- Digital skills C ++, Python, Fortran, Matlab, LaTeX
- Other skills Replace with other relevant skills not already mentioned linked to Spoke research topics

SELECTED PUBLICATIONS

- A. Cangiani, Z. Dong, E. H. Georgoulis and P. Houston. *hp-Version Discontinuous Galerkin Methods on Polygonal and Polyhedral Meshes*. SpringerBriefs in Mathematics, Springer, 2017.
- G. R. Barrenechea, F. Brezzi, A. Cangiani, and E. H. Georgoulis (editors). *Building Bridges: Connections and Challenges in Modern Approaches to Numerical Partial Differential Equations* Lecture Notes in Computational Science and Engineering, Springer, 2016.
- A. Cangiani, R. L. Davidchack, E. Georgoulis, A. N. Gorban, J. Levesley, and M. V. Tretyakov (editors). *Numerical Mathematics and Advanced Applications 2011*. Proceedings of ENUMATH 2011, the 9th European Conference on Numerical Mathematics and Advanced Applications, Leicester, September 2011. Springer, 2013.
- A. Cangiani, V. Gyrya, G. Manzini, and O. Sutton. Virtual element methods for elliptic problems on polygonal meshes. In: Kai Hormann and N. Sukumar, *Generalized Barycentric Coordinates in Computer Graphics and Computational Mechanics*. CRC Press, 2017.
- A. Cangiani, Z. Dong, and E. H. Georgoulis. hp-Version discontinuous Galerkin methods on essentially arbitrarily- shaped elements. *Mathematics of Computation* 91, 1–35, 2022.
- A. Cangiani, E. H. Georgoulis, A Yu. Morozov, and O. J. Sutton. Revealing new dynamical patterns in a reaction–diffusion model with cyclic competition via a novel computational framework. *Proc. Royal Soc. A*, 474(2213), 2018.
- A. Cangiani, E. H. Georgoulis, T. Pryer, and O. J. Sutton. A posteriori error estimates for the virtual element method. *Numer. Math.*, 137(4), 857–893, 2017.
- A. Cangiani, G. Manzini, and O. Sutton. Conforming and Nonconforming Virtual Element Methods for Elliptic Problems. *IMA J. of Numer. Anal.*, 37(3), 1317–1354, 2017.
- A. Cangiani, E. H. Georgoulis and P. Houston. hp-Version discontinuous Galerkin methods on polygonal and polyhedral meshes. *Math. Mod. Meth. in Appl. Sci.*, 24(10), 2009–2041, 2014.
- L. Beirao da Veiga, F. Brezzi, A. Cangiani, G. Manzini, L.D. Marini, and A. Russo. Basic Principles of Virtual Element Methods. *Math. Mod. Meth. in Appl. Sci.*, Vol. 23(1), 199–214, 2013.
- A. Cangiani, R. Natalini. A spatial model of cellular molecular trafficking including active transport along microtubules. *J. Theor. Bio.*, 267, 614–625, 2010.