Professor Marco Petrolo

See:
http://www1.rmit.edu.au/staff/marco-petrolo

Aerospace, Mechanical & Manufacturing Engineering
RMIT University, Australia

Education:
2011, PhD in Aerospace Engineering (Fluid Dynamics), Politecnico di Torino, Italy.
2008, MSc in Aerospace Engineering, TU Delft, The Netherlands.
2008, MSc in Aerospace Engineering, Politecnico di Torino, Italy.
2005, BSc in Aerospace Engineering, Politecnico di Torino, Italy.

Key activities:
Dr Petrolo is a research fellow in aerospace and composite structures. He undertakes research in the structural modelling of structures for static, dynamic and aeroelastic problems.
Dr Petrolo's research activity deals with the structural analysis of composite lifting surfaces; refined beam, plate and shell models; component-wise approaches, damage analysis and axiomatic/asymptjotic analyses. He is author and co-author of some 50 publications, including 2 books and 25 articles.
He was Post-Doc fellow at the Politecnico di Torino (Italy). He worked in Professor Carrera's research group on various research topics related to the development of refined structural models of composite structures.
Marco earned his PhD in Aerospace Engineering at the Politecnico di Torino in April 2012, discussing a thesis on advanced aeroelastic models for the analysis of lifting surfaces made of composite materials. He gained an MSc in Aerospace Engineering at the Politecnico di Torino, an MSc in Aerospace Engineering at the TU Delft (The Netherlands) and a BSc in Aerospace Engineering at the Politecnico di Torino. He worked as an intern at EADS (Germany). Marco is a Fulbright alumnus and spent research periods at the San Diego State University

(USA) and at the University of Michigan (USA). Marco was Adjunct Professor in Fundamentals of Strength of Materials (Turin Polytechnic University in Tashkent, Uzbekistan).

Academic and industry experience:
Jan 2014 - , Research Fellowship, School of Aerospace, Mechanical and Manufacturing Engineering, RMIT University, Australia.
June 2013 - Dec 2013, Research Assistantship, Department of Mechanical and Aerospace Engineering, Politecnico di Torino Italy.
Apr 2013 - Sep 2013, Adjunct Professor, Fundamentals of Strength of Materials, Turin Polytechnic University in Tashkent (Uzbekistan), BSc in Mechanical Engineering.
Sep 2012 - Apr 2013, Post-Doc Fellowship, Department of Mechanical and Aerospace Engineering, Politecnico di Torino granted by Universidade do Porto, Portugal.
Oct 2012 - Nov 2012, Visiting Researcher, Advanced Composites Centre for Innovation and Science (ACCIS), University of Bristol, UK.
Oct 2008 - Aug 2012, Research Assistantship, Department of Mechanical and Aerospace Engineering, Politecnico di Torino, Italy.
Mar 2011 - Apr 2011, Fulbright Visiting Student Research, Department of Aeronautics and Space Engineering, University of Michigan, Ann Arbor, USA.
Oct 2011 - Feb 2011, Fulbright Visiting Student Research, Department of Mechanics and Aeronautic Engineering, San Diego State University, San Diego, USA.
Aug 2007 - Jan 2008, Intern at EADS Innovation Works, EADS Deutschland GmbH, Munich, Germany.

Honours and awards:
Aug 2012 - Jun 2013, Editor of SMART'13: Smart Materials and Structures, in Advanced Materials Research, Vol. 745, ISSN: 1022-6680, TRANS TECH PUBLICATIONS, 2013.
Sep 2012 - Member of the Scientific Committee of the First International Conference on Mechanics of Composites (MECHCOMP2014), Atlanta (USA), 8-11 June 2014.
Feb 2013 - Sep 2013, Session Organizer and Co-Chairman of a spacial session on Advanced beam models for homogeneous and non-homogeneous structures, XXI Congresso di Meccanica Teorica e Applicata, AIMETA 2013, Torino (ITALY), 17-20 September 2013.
Aug 2012 - June 2013, Member of the Local Organization Committee of the 6th ECCOMAS Thematic Conference on Smart Structures and Materials (SMART2013), Torino (ITALY), 24-26 June 2013.
Aug 2011 - Jun 2012, Member of the Local Organization Committee of the First International Conference on Mechanics of Nano, Micro and Macro Composite Structures, Torino (ITALY), 18-20 June 2012.
Aug 2011 - Jun 2012, Session Organizer and Co-Chairman of a special session on Advanced Structural Models for Thin-Walled Structures and Slender Bodies, First International Conference on Mechanics of Nano, Micro and Macro Composite Structures, Torino (ITALY), 18-20 June 2012.
2010, Fulbright Grant, US-Italy Fulbright Commission.

Selected Publications:
-----Book: E. Carrera, M. Cinefra, M. Petrolo, and E. Zappino Finite Element Analysis of Structures by Unified Formulation. John Wiley & Sons, 2014.
-----Book: E. Carrera, G. Giunta, and M. Petrolo. Beam Structures: Classical and Advanced Theories. John Wiley & Sons, 2011.

E. Carrera, A. Pagani, and M. Petrolo. Classical, refined and component-wise analysis of reinforced-shell structures. AIAA Journal, 51(5):1255–1268, 2013. doi:10.2514/1.J052331.

E. Carrera, A. Pagani, and M. Petrolo. Component-wise Method Applied to Vibration of Wing Structures. Journal of Applied Mechanics, 80(4), 2013. doi:10.1115/1.4007849.

M. Petrolo. Flutter analysis of composite lifting surfaces by the 1D Carrera unified formulation and the doublet lattice method. Composite Structures, 95:539–546, 2013. doi: 10.1016/j.compstruct.2012.06.021.

E. Carrera, E. Zappino, and M. Petrolo. Analysis of thin-walled structures with longitudinal and transversal stiffeners. Journal of Applied Mechanics, 80, 2013. doi:10.1115/1.4006939.

M. Petrolo. Advanced 1D structural models for flutter analysis of lifting surfaces. International Journal of Aeronautical and Space Sciences, 13(2):199–209, 2012. doi: 10.5139/IJASS.2012.13.2.199.

E. Carrera, F. Miglioretti, and M. Petrolo. Computations and Evaluations of Higher-Order Theories for Free Vibration Analysis of Beams. Journal of Sound and Vibration, 331:4269–4284, 2012. doi:10.1016/j.jsv.2012.04.017.

E. Carrera, M. Maiaru', and M. Petrolo. Component-Wise Analysis of Laminated Anisotropic Composites. International Journal of Solids and Structures, 49:1839–1851, 2012. doi: 10.1016/j.ijsolstr.2012.03.025.

E. Carrera and M. Petrolo. Refined one-dimensional formulations for laminated structure analysis. AIAA Journal, 50(1):176–189, 2012. doi: 10.2514/1.J051219.

E. Carrera and M. Petrolo. Refined beam elements with only displacement variables and plate/shell capabilities. Meccanica, 47:537–556, 2012. DOI:10.1007/s11012-011-9466-5.

E. Carrera, M. Petrolo, and E. Zappino. Performance of CUF approach to analyse the structural behavior of slender bodies. Journal of Structural Engineering, 138(2):285-297, 2012. doi:10.1061/(ASCE)ST.1943-541X.0000402.

E. Carrera, F. Miglioretti, and M. Petrolo. Accuracy of refined finite elements for laminated plate analysis. Composite Structures, 93(5):1311–1327, 2011. doi:10.1016/j.compstruct.2010.11.007.

E. Carrera and M. Petrolo. On the effectiveness of higher-order terms in refined beam theories. Journal of Applied Mechanics, 78(2), 2011. DOI:10.1115/1.4002207.

E. Carrera and M. Petrolo. Guidelines and recommendations to construct theories for metallic and composite plates. AIAA Journal, 48(12):2852–2866, 2010. doi:10.2514/1.J050316.