



Professor Paulo de Mattos Pimenta

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Biography:

Paulo M. Pimenta was born in São Paulo, Brazil, in August 1954. He got his Civil Engineer degree at the Polytechnic School at the University of São Paulo in 1976 and his PhD (Dr.-Ing.) in Aerospace Engineering at the University of Stuttgart in 1982 (his advisor was Prof. J.H. Argyris). In 1989 he was appointed as full professor at the Polytechnic School at the University of São Paulo, where he still teaches. Since the PhD, he was visiting professor at the University of Stuttgart, Stanford University, “Instituto Superior Técnico” in Lisbon and the Leibniz University of Hanover, Germany. In 2006 he got from DFG a Mercator Chair at the Leibniz University of Hanover, where he spent a semester teaching and researching. In 2008 he acted as coordinator and lecturer of the course “New trends in thin structures: formulations, optimization and coupled problems” at the CISM, Udine, Italy. He was president of the Brazilian Association of Computational Mechanics, in the period 1999-2003.



Paolo de Mattos Pimenta and Peter Wriggers (Editors), *New Trends in Thin Structures: Formulation, Optimization and Coupled Problems*, Springer, 2011

Paulo was the best student of the Engineering School of the University of São Paulo since its foundation, got his M.Sc degree in 1978 with summa cum laude and obtained his PhD at the University of Stuttgart in 1982 (mit Auszeichnung bestanden). He got the award of the best PhD thesis at University of Stuttgart in 1983. He got his position as Professor at the University of São Paulo at age of 33, being the youngest at that time. He advised 20 M.Sc students and 35 PhD students in Brazil and 3 PhD students in Portugal. He published more than 50 papers in renowned international journals and more than 100 works in international congresses. He edited 2 books and organized 4 international congresses; the last one was the X World Congress on Computational Mechanics in São Paulo in 2012 with more than 1800 participants. He is member of the advisory board of 4 renowned international journals and reviewer of many others. He is member of the ACIESP (Science Academy of the State of São Paulo). His major contribution to solid and structural computational mechanics is in the field of geometrically nonlinear analysis. In 2013 he received the degree 1A as Brazil's best researcher on Civil Engineering. He is also active as a reputed consultant in structures, acting on several important projects in Brazil. In 2014 he got the IACM Fellow Award and the Georg Forster Research Award from the Alexander von Humboldt Foundation. In 2016 he got a Chair at Sorbonne Universités in Paris, where he will teach and do research.

Selected Publications:

Book:

Paulo de Mattos Pimenta and Peter Wriggers (Editors), *New Trends in Thin Structures: Formulation, Optimization and Coupled Problems*, Springer, 2011

Journal Articles:

P.M. Pimenta. On a geometrically-exact finite-strain shell model. In *Proceedings of the 3rd Pan-American Congress on Applied Mechanics, III PACAM*, São Paulo, 1993.

P.M. Pimenta. Geometrically-Exact Analysis of Initially Curved Rods. In *Advances in Computational Techniques for Structural Engineering*, Edinburgh, U.K., v.1, 99–108, Civil-Comp Press, Edinburgh, 1996.

P.M. Pimenta & E.M.B. Campello. Geometrically nonlinear analysis of thin-walled space frames. In *Proceedings of the Second European Conference on Computational Mechanics, II ECCM*, Cracow, Poland, 2001

E.M.B. Campello, P.M. Pimenta and P. Wriggers. A triangular finite shell element based on a fully nonlinear shell formulation. *Computational Mechanics*, 31: 505-518, 2003

P.M. Pimenta, E.M.B. Campello and P. Wriggers. A fully nonlinear multi-parameter shell model with thickness variation and a triangular shell finite element. *Computational Mechanics*, 34: 181-193, 2004

E. M. B. Campello, P. M. Pimenta, and P. Wriggers. "A geometrically-exact finite strain shell model for the analysis of initially curved shells". In *Sixth World Congress on Computational Mechanics*, in conjunction with the *Second Asian-Pacific Congress on Computational Mechanics*, Beijing, China, 5–10 September 2004. Tsinghua University Press & Springer-Verlag.

C. Tiago and P. M. Pimenta. "Geometrically exact analysis of shells with an exact initial geometry by a meshless method". In M. Alves and H. S. da Costa Mattos, editors, *Solid Mechanics in Brazil 2007*, pages 513–536, São Paulo, Brasil, March 2007

Carlos M. Tiago and Paulo M. Pimenta, "On the nonlinear analysis of thin shells by the generalized moving-least squares approximation", 8th. World Congress on Computational Mechanics (WCCM8); 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008); June 30 –July 5, 2008 Venice, Italy

C. Tiago and P. M. Pimenta, An EFG method for the nonlinear analysis of plates undergoing arbitrarily large deformations, *Engineering Analysis with Boundary Elements*, vol. 32, no. 6, pp. 494 –511, 2008

P.M. Pimenta & E.M.B. Campello. Shell curvature as an initial deformation: geometrically exact finite element approach, *International Journal for Numerical Methods in Engineering*, 78, 1094–1112, 2009

Paulo M. Pimenta, Edgard S. Almeida Neto and Eduardo M.B. Campello (Department of Structural and Geotechnical Engineering, Polytechnic School at the University of São Paulo, São Paulo, Brazil), “A Fully Nonlinear Thin Shell Model of Kirchhoff-Love Type”, Chapter in *New Trends in Thin Structures: Formulation, Optimization and Coupled Problems*, Edited by Paulo De Mattos Pimenta and Peter Wriggers, pp 29-58, 2010

Ivannikov V, Tiago C, Pimenta P (2014) TUBA finite elements: application to the solution of a nonlinear Kirchhoff–Love shell theory. In: Pietraszkiewicz W, Górski J (eds) *Shell structures: theory and applications*, vol 3. CRC Press, London, pp 81–84

V. Ivannikov, C. Tiago and P.M. Pimenta, “Nonlinear Kirchhoff-Love shells: Theory and numerical assessment using TUBA finite elements”, 11th World Congress on Computational Mechanics (WCCM XI); 5th European Conference on Computational Mechanics (ECCM V); 6th European Conference on Computational Fluid Dynamics (ECFD VI); July 20–25, 2014, Barcelona, Spain

V. Ivannikov, C. Tiago, and P.M. Pimenta. Meshless implementation of the geometrically exact Kirchhoff–Love shell theory. *International Journal for Numerical Methods in Engineering*, 100(1):1–39, 2014