



**Professor Alfonso Pagani**

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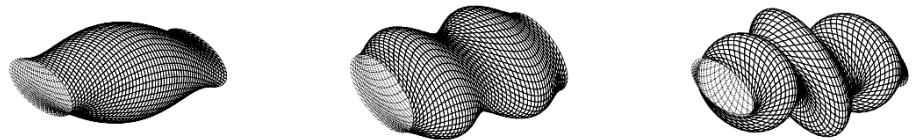
[https://www.researchgate.net/profile/Alfonso\\_Pagani](https://www.researchgate.net/profile/Alfonso_Pagani)

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**Biography:**

Alfonso Pagani is professor assistant at the Department of Mechanical and Aerospace Engineering, Politecnico di Torino. Alfonso’s research activities are related to the development of refined models for aerospace structures; composites; aeroelasticity and FSI; numerical methods; multi-field problems; geometrical nonlinearities and post-buckling. He is the co-author of some 70 publications, including 35 articles in International Journals. Alfonso serves as assistant editor for *Advances in Aircraft and Spacecraft Structures*, an Int’l Journal edited by Techno-Press. Also, he has recently been appointed adjunct professor in Fundamentals of Strength of Materials (BSc in Mechanical Engineering at the Turin Polytechnic University in Tashkent, Uzbekistan). Pagani earned a Ph.D. in Structural Dynamics at City University of London in 2016 and, earlier, a Ph.D. in Fluid-dynamics at Politecnico di Torino. He gained an MSc and a BSc in Aerospace Engineering at Politecnico di Torino in December 2011 and October 2009, respectively. Alfonso spent research periods at Purdue University in 2016, where he worked on the implementation of advanced models for micro-structural analysis with Prof. W. Yu; RMIT Melbourne in 2014, where he developed models for flutter analysis and gust response of composite lifting surfaces; at Universidade do Porto in 2013, where he carried out investigations about the use of RBFs for the solution of equations of motion of refined beam models; at London City University in 2012, where he formulated higher-order, exact, DSM-based 1D models for metallic and composite structures.

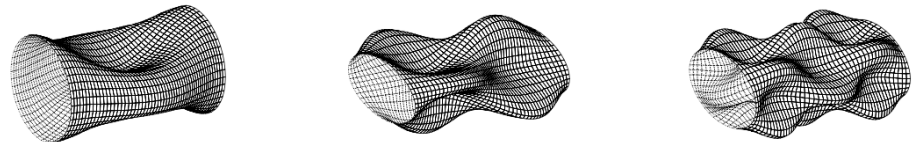


(a)  $f = 46.590 \text{ Hz}$

(b)  $f = 106.500 \text{ Hz}$

(c)  $f = 177.589 \text{ Hz}$

**Figure 8. Torsional normal modes of the thin-walled cylinder. Cubic TE model.**



(a)  $M = 2, L = 1$

(b)  $M = 3, L = 2$

(c)  $M = 4, L = 3$

**Figure 9. Shell – like modal shapes corresponding to different values of  $M$  and  $L$ .**

From: M. Filippi, A. Pagani, E. Carrera, M. Petrolo and E. Zappino, “Advanced models for static and dynamic analysis of wing and fuselage structures”, AIAA Structures, Dynamics and Materials Conference, 2012

### **Selected Publications:**

- M. Filippi, A. Pagani, E. Carrera, M. Petrolo and E. Zappino, “Advanced models for static and dynamic analysis of wing and fuselage structures”, AIAA Structures, Dynamics and Materials Conference, 2012
- E. Carrera, A. Pagani, M. Petrolo, Use of Lagrange multipliers to combine 1D variable kinematic finite elements, *Comput Struct*, 129 (2013), pp. 194–206
- E. Carrera, A. Pagani, Analysis of reinforced and thin-walled structures by multi-line refined 1D/beam models, *Int J Mech Sci*, 75 (2013), pp. 278–287
- E. Carrera, A. Pagani, M. Petrolo, Classical, refined and component-wise theories for static analysis of reinforced-shell wing structures, *AIAA J*, 51 (5) (2013), pp. 1255–1268
- E. Carrera, A. Pagani, M. Petrolo, Component-wise method applied to vibration of wing structures, *J Appl Mech*, 80 (4) (2013), pp. 1–15 [art. no. 041012]
- E. Carrera, A. Pagani, M. Petrolo, Refined 1D finite elements for the analysis of secondary, primary, and complete civil engineering structures, *J Struct Eng*, 141 (4) (2014) [art. no. 04014123]
- E. Carrera, A. Pagani, Free vibration analysis of civil engineering structures by component-wise models, *J Sound Vib*, 333 (19) (2014), pp. 4597–4620
- E. Carrera, A. Pagani, Evaluation of the accuracy of classical beam FE models via locking-free hierarchically refined elements, *Int J Mech Sci*, 100 (2015), pp. 169–179
- E. Carrera, A. Pagani, M. Petrolo, E. Zappino, Recent developments on refined theories for beams with applications, *Mech Eng Rev*, 2 (2) (2015), pp. 14–00298
- Carrera, Erasmo, La Pietra, Raffaele and Pagani, Alfonso, “Buckling analysis and vibrations of pre-stressed shell structures by component-wise models”, International Conference on Vibrations and Buckling, Porto, Portugal, March 7-9, 2016
- E. Carrera, M. Filippi, P.K. Mahato and A. Pagani, “Free-vibration tailoring of single- and multi-bay laminated box structures by refined beam theories”, *Thin-Walled Structures*, Vol. 109, pp 40-48, December 2016
- A. Pagani, S. Valvano, E. Carrera, Analysis of laminated composites and sandwich structures by variable-kinematic MITC9 plate elements, *J Sandwich Struct Mater* (2016) (in press)
- [E. Carrera, A.G. de Miguel and A. Pagani](#), “Hierarchical theories of structures based on Legendre polynomial expansions with finite element applications”, *International Journal of Mechanical Sciences*, Vol. 120, pp 286-300, January 2017
- A. Pagani and E. Carrera, “Large-deflection and post-buckling analyses of laminated composite beams by Carrera Unified Formulation”, *Composite Structures*, Vol. 170, pp 40-52, June 2017