



**Dr. Maria Cinefra**

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**Biography:**

Maria Cinefra is a Ph.D. student at Politecnico di Torino. She earned a BSc in Aerospace Engineering at Politecnico di Torino in March 2007 by discussing a thesis on the method of finite elements in elliptic differential equations. Afterwards she attended an MSc in Aerospace Engineering at Politecnico di Torino and she earned the master degree in March 2008 at Politecnico di Torino with summa cum laude, presenting a work on thermo-mechanical analysis of functionally graded materials (FGM) shells. M. Cinefra started her Ph.D. in January 2009 under the supervision of Prof. Erasmo Carrera and her research project is related to the "Thermo-mechanical design of multi-layered plates and shell embedding FGM layers". She is enrolled in a Ph.D. with a foreign co-advisor, Prof. Olivier Polit, at the University of Paris Ouest Nanterre. Her research project is funded by the Fonds National de la Recherche of Luxembourg and it is performed in collaboration with the CRP Henri Tudor of Esch (Lux). In 2010 she worked as teaching assistant at the Politecnico di Torino for the courses of "Non-linear analysis of structures" and "Structures for spatial vehicles". She was involved in a collaboration with the Department of Mathematics of Università di Pavia in order to create a new shell finite element based on the Unified Formulation by Carrera. Currently, M. Cinefra works to extend such element to the analysis of composite materials and multi-field problems.

**Selected Publications:**

Cinefra M., Carrera E., Valvano S. (2015), Variable kinematic shell elements for the analysis of electro-mechanical problems. In: MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, vol. 22 n. 1-2, pp. 77-106. - ISSN 1537-6532

Erasmus Carrera, Maria Cinefra, Enrico Zappino, Lorenzo Succi (2014), Effects of Thermo-Mechanical Loads on the Aeroelastic Instabilities of Metallic and Composite Panels. In: TRANSACTION OF NANJING UNIVERSITY OF AERONAUTICS AND ASTRONAUTICS, vol. 31 n. 2, pp. 118-122. - ISSN 1005-1120 [Item availability restricted.]

Keshava Kumar S., Cinefra M., Carrera E., Ranjan Ganguli, Dineshkumar Harursampath (2014), Finite Element Analysis of Free Vibration of the Delaminated Composite Plate with Variable Kinematic Multilayered Plate Elements. In: COMPOSITES. PART B, ENGINEERING, vol. 66, pp. 453-465. - ISSN 1359-8368

Cinefra M., Valvano S., Carrera E. (2014), A Finite Elements Model embedding Piezoelectric Patches. In: 5th International Symposium on Aircraft Materials, Marrakech, Morocco, 23-26 April 2014.

Cinefra M., Valvano S., Carrera E. (2014), A Finite Elements with Continue Transverse Electric Displacement for the Electro-Mechanical Analysis of Shell Structures. In: DeMEASS VI, Ede, Netherlands, 25-28 May 2014

Carrera E., Cinefra M., Keshava Kumar S. (2014), MITC9 shell elements based on RMVT and CUF for the analysis of composite plates and shells. In: First International Conference on Mechanics of Composites, Stony Brook University, Long Island, New York, 9-12 Giugno 2014.

Cinefra M., Valvano S., Carrera E. (2014), Refined Shell Elements for the Analysis of Multifield Problems in Multilayered Structures. In: 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, Barcelona, Spain, 20-25 July 2014.

Cinefra M., Carrera E., Valvano S. (2014), Refined shell elements for the thermo-mechanical analysis of multilayered structures. In: First International Conference on Mechanics of Composites (MechComp2014), Stony Brook, Long Island (NY), USA, 8-12 June 2014

Cinefra M., Chinosi C., Della Croce L., Carrera E. (2014), Refined shell finite elements based on RMVT and MITC for the analysis of laminated structures. In: COMPOSITE STRUCTURES, vol. 113, pp. 492-497. - ISSN 0263-8223

Cinefra M., Carrera E., Valvano S. (2013), Doubly-curved shell finite elements based on MITC-type technique and Unified Formulation for the analysis of multilayered structures. In: International Conference on Science and Technology of Heterogeneous Materials and Structures, Wuhan University, China, 11-13 October 2013. pp. 81-82

Erasmus Carrera, Maria Cinefra, Enrico Zappino, Lorenzo Succi (2013), Effects of Thermo-Mechanical Loads on the Aeroelastic Instabilities of Metallic and Composite Panels. In: 10th International Congress on Thermal Stresses, Nanjing, China, May 31- June 4. [Item availability restricted.]

Carrera E., Cinefra M., Petrolo M., Zappino E. (2013), Free vibration analysis of thin-walled structures through 1D and 2D refined models. In: XXI Congresso Associazione Italiana di Meccanica Teorica e Applicata, Torino, Italy, 17-20 Settembre 2013. [Item availability restricted.]

Cinefra M., Carrera E., Chinosi C., Della Croce L. (2013), MITC9 finite elements based on RMVT for the analysis of laminated shells. In: XXI Congresso Associazione Italiana di Meccanica Teorica e Applicata, Torino, Italy, 17-20 Settembre 2013. [Item availability restricted.]

Cinefra M., Chinosi C., Della Croce L. (2013), MITC9 shell elements based on refined theories for the analysis of isotropic cylindrical structures. In: MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, vol. 20, pp. 91-100. - ISSN 1537-6532

M. Cinefra, E. Carrera, S. Valvano (2013), Refined shell elements for the analysis of multilayered structures with piezoelectric layers. In: 6th ECCOMAS Thematic Conference on Smart Structures and Material (SMART2013), Torino (Italy), 24-26 June 2013.

M. Cinefra, E. Carrera (2013), Shell finite elements with different through-the-thickness kinematics for the linear analysis of cylindrical multilayered structures. In: INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING, vol. 93, pp. 160-182. - ISSN 0029-5981

M. Cinefra, E. Carrera, C. Chinosi, L. Della Croce (2013), Unified Formulation for MITC9 shell elements based in RMVT. In: 17th International Conference on Composite Structures (ICCS17), Porto (Portugal), 17-20 June 2013.

M. Cinefra, G. Augello, E. Carrera (2012), Benchmarking of commercial codes by refined shell finite element models in the analysis of composite structures. In: International Conference on Mechanics of Nano, Micro and Macro Composite Structures (ICMNMCS), Torino (Italy), 18-20 June 2012.

Cinefra M., Carrera E., Bischoff M. (2012), Isoparametric shell finite elements based on Unified Formulation. In: 10th World Congress on Computational Mechanics, San Paolo (Brasile), 8-13 Luglio.

Cinefra M. (2012), Refined and advanced shell models for the analysis of advanced structures. PhD thesis [Item availability restricted.]

Cinefra M., Carrera E., Della Croce L., Chinosi C. (2012), Refined shell elements for the analysis of functionally graded structures. In: COMPOSITE STRUCTURES, vol. 94, pp. 415-422. - ISSN 0263-8223

M. Cinefra, E. Carrera (2012), Thermo-mechanical analysis of functionally graded structures via refined shell finite elements. In: International Conference on Mechanics of Nano, Micro and Macro Composite Structures (ICMNMCS), Torino (Italy), 18-20 June 2012.

Cinefra M.; Soave M (2011), Accurate vibration analysis of multilayered plates made of functionally graded materials. In: MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, vol. 18 n. 1, pp. 3-13. - ISSN 1537-6494

Cinefra M., Carrera E., Chinosi C., Della Croce L. (2011), Refined multilayered shell elements based on MITC type technique and Unified Formulation. In: Sixth MIT Conference on Computational Fluid and Solid Mechanics, Boston (MA) USA, 15-17/06/2011.

Maria Cinefra, Erasmo Carrera, Salvatore Brischetto (2011), Refined shell models for the vibration analysis of multiwalled carbon nanotubes. In: MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, vol. 18 n. 7, pp. 476-483. - ISSN 1537-6532

Cinefra M., Belouettar S., Soave M., Carrera E. (2010), Variable kinematic models applied to free vibration analysis of functionally graded materials shells. In: EUROPEAN JOURNAL OF MECHANICS. A, SOLIDS, vol. 29, pp. 1078-1087. - ISSN 0997-7538