



Professor Rossana Dimitri

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Department of Innovation Engineering
University of Salento, Lecce, Italy

Biography:

Rossana Dimitri is an Assistant Professor at the School of Engineering, Department of Innovation Engineering, University of Salento, Lecce, Italy. She received from the University of Salento, a M. Sc. degree in “Materials Engineering” in 2004, a Ph.D. degree in “Materials and Structural Engineering” in 2009, and a Ph.D. degree in “Industrial and Mechanical Engineering” in 2013. In 2005, she received from the University of Salento the “Best M. Sc. Thesis Price 2003-2004” in memory of Eng. Gabriele De Angelis; in 2013 she was awarded by the Italian Group for Computational Mechanics (GIMC) for the Italian selection of the 2013 ECCOMAS PhD Award. Her current interests include Structural Mechanics, Solid Mechanics, Damage and Fracture Mechanics, Contact Mechanics, Isogeometric Analysis, High performances Finite Elements, consulting in applied technologies and technology transfer. During 2010 and 2011 she received a research fellowship by ENEA Research Centre of Brindisi (UTTMATB-COMP) for the development and the characterization of some thermoplastic composites for thermal solar panels and adhesively bonded turbine blades under severe environmental conditions. During 2011 and 2012 she was a visiting scientist with a fellowship at the Institut für

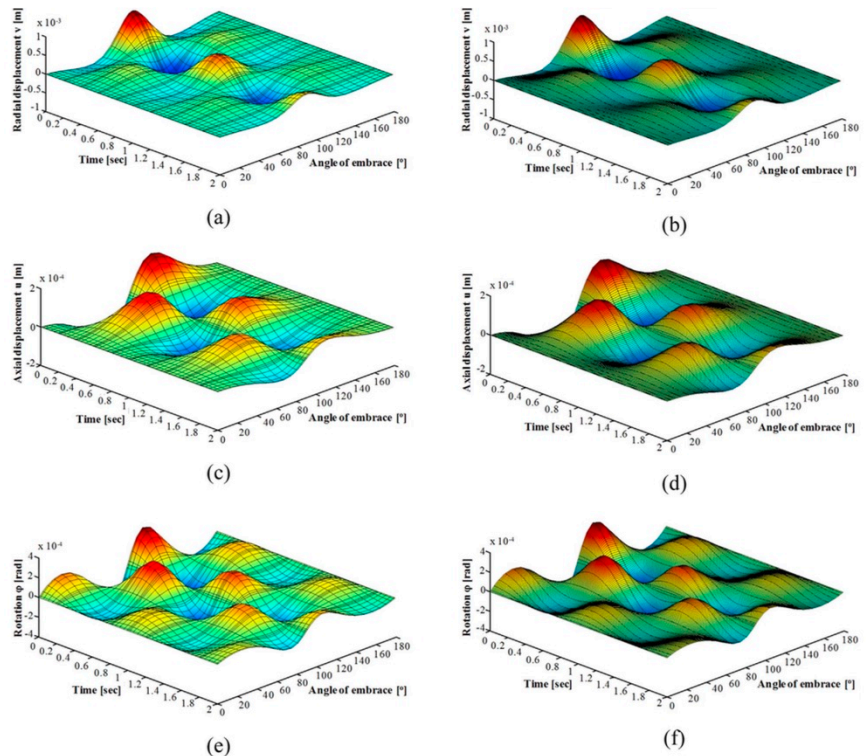


Fig. 9. Dynamic response of an elliptic arch as given by the GDQ (a),(c),(e) and the Newmark (b),(d),(f) methods. Case 1.

From: F. Tornabene, R. Dimitri, E. Viola (2016), “Transient dynamic response of generally-shaped arches based on a GDQ-time stepping method”. International Journal of Mechanical Sciences. Vol. 114, pp. 277-314

Kontinuumsmechanik Gottfried Wilhelm Leibniz Universität Hannover to study interfacial problems with isogeometric approaches. From 2013 to 2016 she was a researcher at the University of Salento, within the ERC starting research grant “INTERFACES” on “Computational mechanical modeling of structural interfaces based on isogeometric approaches”. From few months, she is collaborating with the University of Bologna and the Texas A&M University for a comparative assessment of some advanced numerical collocation methods with lower computational cost for fracturing problems and structural modeling of composite plates and shells, made by isotropic, orthotropic and anisotropic materials. She also collaborates as reviewer with different prestigious international journals in the structural mechanics field.

Selected Publications:

Book:

F. Tornabene, R. Dimitri (2015), “Stabilità dell'Equilibrio Elastico”, Esculapio, Bologna. ISBN: 978-88-7488-845-0.

Journal Articles:

1. A. Asanjarani, M. Nejati, R. Dimitri, F. Tornabene (2017), “Static and Free Vibration Analysis of Functionally Graded Conical Shells Reinforced by Carbon Nanotubes”. *International Journal of Mechanical Sciences*, Vol. 130, pp 383-398, September 2017 10.1016/j.ijmecsci.2017.06.024.
2. R. Dimitri, P. Cornetti, V. Mantic, M. Trullo, L. De Lorenzis (2017), “Mode-I debonding of a double cantilever beam: A comparison between cohesive crack modeling and finite fracture mechanics”. *International Journal of Solids and Structures*, Vol. 124, pp 57-72, October 2017, doi.org/10.1016/j.ijsolstr.2017.06.007.
3. R. Dimitri, G. Zavarise (2017), “Isogeometric treatment of frictional contact and mixed mode debonding problems”. *Computational Mechanics*, Vol. 60, No. 2, pp 315-332, doi:10.1007/s00466-017-1410-7. R. Dimitri, Y. Li, N. Fantuzzi, F. Tornabene (2017), “Innovative Modeling of the Crack path and Stress Intensity Factor for Arbitrary Shaft Configurations”. *Advanced Materials and Technology*. Vol. 5(1), pp. 020-035.
4. N. Fantuzzi, F. Tornabene, M. Baccocchi, R. Dimitri (2017), “Free vibration analysis of arbitrarily shaped Functionally Graded Carbon Nanotube-reinforced plates”. *Composites Part B Engineering*. Vol. 115, pp. 384-408.
5. Y. Li, S. Cao, R. Dimitri, N. Fantuzzi, F. Tornabene (2017), “Analytical and numerical investigation of the stiffness matrix for edge-cracked circular shafts”. *Fatigue & Fracture of Engineering Materials & Structures*. Vol. 40(3), pp. 3918-411.
6. R. Dimitri, N. Fantuzzi, Y. Li, F. Tornabene (2017), “Numerical computation of the crack development and SIF in composite materials with XFEM and SFEM”. *Composite Structures*. Vol. 160, pp. 468-490.
7. R. Ramkumar, R. Dimitri, F. Tornabene (2016), “Numerical study on the free vibration and thermal buckling behavior of moderately thick functionally graded structures in thermal environments”. *Composite Structures*. Vol. 157, pp. 207-221.
8. R. Dimitri, N. Fantuzzi, F. Tornabene, G. Zavarise (2016), “Innovative numerical methods based on SFEM and IGA for computing stress concentrations in isotropic plates with discontinuities”. *International Journal of Mechanical Sciences*. Vol. 118, pp. 166-187.
9. F. Tornabene, R. Dimitri, E. Viola (2016), “Transient dynamic response of generally-shaped arches based on a GDQ-time stepping method”. *International Journal of Mechanical Sciences*. Vol. 114, pp. 277-314.
10. N. Fantuzzi, R. Dimitri, F. Tornabene (2016), “A SFEM-based evaluation of mode-I Stress Intensity Factor in composite structures”. *Composite Structures*. Vol. 145, pp. 162-185.

11. S. Kamarian, M. Salim, R. Dimitri, F. Tornabene (2016), "Free vibration analysis of conical shells reinforced with agglomerated carbon nanotubes". *International Journal of Mechanical Sciences*. Vol. 108-109, pp. 157-165.
12. R. Dimitri, G. Zavarise (2015), "T-splines discretizations for large deformation contact problems". *Proceedings in Applied Mathematics and Mechanics (PAMM)*. Vol. 15, pp. 183-184.
13. R. Dimitri, M. Trullo, L. De Lorenzis, G. Zavarise (2015), "Coupled cohesive zone models for mixed-mode fracture: a comparative study". *Engineering Fracture Mechanics*. Vol. 148, pp. 145-179.
14. F. Tornabene, N. Fantuzzi, M. Baccocchi, R. Dimitri (2015), "Free vibrations of composite oval and elliptic cylinders by the generalized differential quadrature method". *Thin-Walled Structures*. Vol. 97, pp. 114-129.
15. F. Tornabene, N. Fantuzzi, M. Baccocchi, R. Dimitri (2015), "Dynamic analysis of thick and thin elliptic shell structures made of laminated composite materials". *Composite Structures*. Vol. 133, pp. 278-299.
16. R. Dimitri, F. Tornabene (2015), "A parametric investigation of the seismic capacity for masonry arches and portals of different shapes". *Engineering Failure Analysis*. Vol. 52, pp. 1-34.
17. R. Dimitri (2015), "Isogeometric treatment of large deformation contact and debonding problems with T-splines: a review". *Curved and Layered Structures*. Vol. 2, pp. 59-90.
18. R. Dimitri, M. Trullo, L. De Lorenzis, G. Zavarise (2014), "A consistency assessment of coupled cohesive zone models for mixed-mode debonding problems". *Frattura ed Integrità Strutturale*. Vol. 29, pp. 266-283.
19. R. Dimitri, L. De Lorenzis, P. Wriggers, G. Zavarise (2014), "NURBS- and T-spline-based isogeometric cohesive zone modeling of interface debonding". *Computational Mechanics*. Vol. 54, pp. 369-388.
20. R. Dimitri, L. De Lorenzis, M.A. Scott, P. Wriggers, R.L. Taylor, G. Zavarise (2014), "Isogeometric large deformation frictionless contact using T-splines". *Computer Method in Applied Mechanics and Engineering*. Vol. 269, pp. 394-414.
21. L. De Lorenzis, R. Dimitri, J. Ochsendorf (2012), "Structural study of masonry buttresses: the trapezoidal form". *ICE Proceedings – Structures and Buildings*. Vol. 165(9), pp. 483-498.
22. L. De Lorenzis, R. Dimitri, J. Ochsendorf (2012), "Structural study of masonry buttresses: the stepped form". *ICE Proceedings – Structures and Buildings*. Vol. 165(9), pp. 499-521.
23. R. Dimitri, L. De Lorenzis, G. Zavarise (2011), "Numerical prediction of the dynamic behavior of masonry columns and arches on buttresses with the discrete element method". *Engineering Structures*. Vol. 33(12), pp. 3172-3188.
24. L. De Lorenzis, R. Dimitri, A. La Tegola (2007), "Reduction of the lateral thrust of masonry arches and vaults with FRP composites". *Construction and Building Materials*. Vol. 21, pp. 1415-1430.