

# Curriculum Vitae et Studiorum

## 2004 - 2022

### Ph.D. Ing. FRANCESCO TORNABENE

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# 1 PERSONAL INFORMATION AND SHORT BIOGRAPHY

Francesco Tornabene

Born in Bologna, on January 13<sup>th</sup>, 1978

Address: via Giacomo Matteotti, 38

40129 Bologna

Office phone: +39 0832297385

Mobile phone: 3208413489

e-mail: francesco.tornabene@unisalento.it

Position: Associate professor

SSD: Structural Mechanics, ICAR/08

Affiliation (since September 10<sup>th</sup> 2018): Department of Innovation Engineering, Università del Salento, Lecce.

Affiliation (from 1<sup>st</sup> January 2004 to September 9<sup>th</sup> 2018): DICAM, Dipartimento di Ingegneria Civile, Chimica, Ambientale e dei Materiali, Scuola di Ingegneria e Architettura, Alma Mater Studiorum - University of Bologna, Bologna.

## 1.1 List of Titles

**2004 - Today:** Author of more than 270 scientific publications.

**2004 - Today:** Reviewer activity for more than 240 National and International Journals.

**November 2020: Highly Cited Researcher** by Clarivate Analytics,  
(<https://recognition.webofscience.com/awards/highly-cited/2020>).

**January 2022 - Today: Associate Professor** at the University of Salento.

**2020 - Today: Associate Editor** of the International Journal: **Frontiers in Built Environment**, Section **Computational Methods in Structural Engineering** (from September 2019 to Today).

**January 2020 - Today: Editor** of the International Journal: **HighTech and Innovation Journal**.

**November 2019: Highly Cited Researcher** by Clarivate Analytics,  
(<https://recognition.webofscience.com/awards/highly-cited/2019>).

**August 2019:** inserted in the **100000 Top Scientists List** (<https://doi.org/10.1371/journal.pbio.3000384>).

**2019 - Today: Associate Editor** of the International Journal: **Mechanics Based Design of Structures and Machines** (from August 2019 to Today).

**January 2017 - Today: Editor-In-Chief** of the International Journal: **Journal of Composites Science**.

**2017 - Today: Co-Editor** of the International Journals: **Science and Engineering of Composite Materials** (from December 2018 to Today) and **The Open Civil Engineering Journal** (from August 2017 to Today).

**2015 - Today: Editor** of the International Journals: **Heliyon** (from January 2018 to Today) and **Mathematical Problems in Engineering** (from December 2015 to Today).

**2015 - Today: Guest Editor** of 11 Special Issues.

**2014 - Today: Editor-In-Chief** of the International Journal: **Curved and Layered Structures**.

**7 February 2019: Ambassador of Bologna Award** for the organization of 21st International Conference on Composite Structures ICCS21, 4-7 September 2018, Bologna, Italy. (<https://events.unibo.it/iccs21>)

**November 2018: Highly Cited Researcher** by Clarivate Analytics, (<https://clarivate.com/news/global-highly-cited-researchers-2018-list-reveals-influential-scientific-researchers-and-their-institutions/>).

**September 2018 - Today: Lecturer at the University of Salento for the following Classes:** *Mechanics of Solids and Structures* for the a.y. 2018/2019, 2019/2020; *Computational Mechanics* for the a.y. 2018/2019, 2019/2020, 2020/2021, 2021/2022; *Dynamics of Structures* for the a.y. 2020/2021; *Biomechanics* for the a.y. 2021/2022.

**September 2018 - December 2021: Assistant Professor** at the University of Salento.

**July 2018 - Today:** Member of the **European Academy of Sciences** (EurASc, <http://www.eurasc.org>).

**June 2018 - Today:** Member of the **International Research Center on Mathematics and Mechanics of Complex Systems** (M&MOCS, <http://memocs.univaq.it>).

**5 April 2018 - 5 April 2024: National Academic Qualification as Full Professor** in Mechanics of Solids and Structures (**08/B2**)

**September 2017: First author** of the scientific paper: “F. Tornabene, N. Fantuzzi, M. Bacciocchi, E. Viola (2018) - *Mechanical Behavior of Damaged Laminated Composites Plates and Shells: Higher-Order Shear Deformation Theories*, Composite Structures 189, 304-329”, winner of “**IAN MARSHALL’S AWARD for Best Student Paper**” during the ICCS20, 20th International Conference on Composite Structures, September 4, 2017.

**7 April 2017 - 7 April 2023: National Academic Qualification as Associate Professor** in Mechanics of Solids and Structures (**08/B2**) and Aeronautic, Aerospace and Naval Engineering (**09/A1**).

**January 2017 - Today:** 35<sup>th</sup> position in the **Top Italian Scientists List (Engineering Area)** ([http://www.topitalianscientists.org/TIS\\_HTML/Top\\_Italian\\_Scientists\\_Engineering.htm](http://www.topitalianscientists.org/TIS_HTML/Top_Italian_Scientists_Engineering.htm)).

**October 2016: Second Author** of the scientific paper: “N. Fantuzzi, F. Tornabene, M. Bacciocchi, R. Dimitri (2017) - *Free Vibration Analysis of Arbitrarily Shaped Functionally Graded Carbon Nanotube-Reinforced Plates*, Composites Part B 115, 384-408” winner of the “Best Student Paper Award”, during the International Conference Multiscale Innovative Materials and Structures - MIMS16, October 28-30, 2016.

**April 2015 - Today:** Representative for the **Erasmus exchanges** of the School of Engineering and Architecture for the Civil Engineering courses and for several **internship** in companies.

**2015 - Today: Member of the Scientific Committee of 20 International Conferences.**

**2014 - Today: Co-Chair and Local Organizer of 7 International Conferences.**

**2013 - Today: Organizer of 5 Mini-Symposia.**

**April 2014: First Author** of the Scientific Paper: “F. Tornabene, A. Ceruti (2013) - *Free-Form Laminated Doubly-Curved Shells and Panels of Revolution Resting on Winkler-Pasternak Elastic Foundations: A 2-D GDQ Solution for Static and Free Vibration Analysis*, World Journal of Mechanics 3(1), 1-25”, considered as one of the best papers published in the Engineering section at the Scientific Research Publishing Inc.

**2013 - Today: Member of the Editorial Board** of 38 International Journals.

**June 2013: First Author** of the Scientific Paper: “F. Tornabene, N. Fantuzzi, E. Viola, E. Carrera (2014) - *Static Analysis of Doubly-Curved Anisotropic Shells and Panels using CUF Approach, Differential Geometry and*

*Differential Quadrature Method*, Composite Structures 107, 675-697”, winner of the “**IAN MARSHALL’S AWARD for Best Student Paper**” during ICCS17, 17th International Conference on Composite Structures, June 21, 2013.

**April 2012 - Today: Member of the Scientific Committee** of the CIMEST Centre.

**June 2012 - Today:** introduced in the website **Shell Buckling People** (<http://shellbuckling.com/people.php>).

**April 2012 - Today:** Author, promoter and developer of the **software DiQuMASPAB** (*Differential Quadrature for Mechanics of Anisotropic Shells, Plates, Arches and Beams*).

**April 2012 - September 2018: Lecturer at the Alma Mater Studiorum - University of Bologna for the following Classes:** *Dynamics of Structures M* for the a.y. 2012/2013 and 2013/2014; *Computational Mechanics M* for the a.y. 2013/2014; *Theory of Structures M* from the a.y. 2014/2015 to 2017/2018; *Plates and Shells M* from the a.y. 2014/2015 to 2017/2018.

**April 2012 - September 2018: Assistant professor** at the Alma Mater Studiorum - University of Bologna.

**2012 - Today: Invited Chairman and organizer of thematic sessions in 8 International Conferences.**

**November 2011 - January 2012: Fixed-term researcher** for the research programme entitled: *Advanced Computation systems for Anisotropic Materials*.

**February 2011 - October 2011:** Owner of the **Research Grant** entitled: *Design Methodologies for Recycling Applied to the Nautical Field*.

**2009 - Today: Research Activity in collaboration with Professors of Foreign and National Universities**, such as: Daniel J. Inman, Isaac B. Elishakoff, Serge Abrate, J.N. Reddy, Antonio J.M. Ferreira, Erasmo Carrera, Romesh C. Batra, Mohamad S. Qatu, Ashraf M. Zenkour, Moshe Eisenberger, Alex Kalamkarov, Salvatore Brischetto, Fernando Fraternali, Luigi Ascione, Saeed Kamarian, Ramkumar Kandasamy, Yong Li, Giovanni Della Puppa, M. Trautz, S. Cao, M. Nejati, A. Asanjarani, Giorgio Zavarise, Patrizia Trovalusci, Francesco Ubertini, Stefania Tomasiello, R. Jiwari, Domagoj Lanc, Rita F. Rango, Liz G. Nallim.

**January 2007 - January 2009:** Owner of the **Research Grant** entitled: *Unified Formulation of Shell Structures Made of Anisotropic Materials. Numerical Analysis by means of the Generalized Differential Quadrature Method and the Finite Element Method*.

**May 2007:** Obtained the **PhD** in *Mechanics of Structures*. Title of the Thesis: *Modeling and Solution of Shell Structures made of Anisotropic Material*.

**January 2005 - December 2011: Adjunt Professor (tutor contract)** teaching assistantship for the classes of *Structural Mechanics L*, a.y. 2005/2006 and a.y. 2007/2008, for the classes of *Mechanics Design and Laboratory T*, a.y. 2010/2011.

**November 2004:** Winner of the *Carlo Felice Jodi grant* for graduated students in structural mechanics.

**January 2004: Qualification for the Mechanical Engineering Profession.**

**Dicembre 2003:** First position obtained in the **competition** for the admission in the **PhD courses** in *Mechanics of Structures*.

**July 2003: Degree in Mechanical Engineering** at the Alma Mater Studiorum – University of Bologna. Title of the thesis: *Dynamic Behavior of Cylindrical Shells: Formulation and Solution*.

**July 2001: Patent for the Industrial Invention** “*Friction Clutch for High Performance Vehicles*”, Question n. BO2001A00442 filed on 13-07-2001 in Bologna. Owner: Alma Mater Studiorum - University of Bologna.

**Luglio 1997: High School Degree (“Maturità Classica”)** achieved at the Liceo Classico “S. Luigi” in Bologna.

## **2 SCIENTIFIC ACTIVITIES**

The investigated research topics are the following:

### **2.1 Research Topics**

- 1) Research activity in “Structural Mechanics”: Theory of Plates and Shells, Theory of Arches with Variable Cross-Section and Curvature, Theory of Beams.
- 2) Research activity in “Computational Mechanics”: Generalized Differential Quadrature Method, Finite Element Method, Strong Formulation Finite Elements, Time Integration Methods.
- 3) Research activity in “Innovative Materials and Smart Materials”: Functionally Graded Materials, Carbon Nanotubes, Variable Angle-Tow Composites.
- 4) Research activity in “Fracture Mechanics”: Orthotropic and Piezoelectric Materials.
- 5) Research activity in “Elastic Stability”: Non-Conservative Forces.

### **2.2 Research Activities**

The research activity aims at investigating the structural behavior of composite doubly-curved shells, focusing on the innovative industrial processes for the development of novel classes of materials. All the proposed models are constantly validated by means of different numerical methods, including the classical finite element method, the differential quadrature and mesh-free methods. The scientific production can be subdivided in the following macro categories.

#### **2.2.1 Structural Mechanics**

The research activity in the structural mechanics topic has focused on the analysis of plates and shells made of composite materials. Shell structures occupy an important role in civil, mechanical, architectural, aerospace and naval engineering. The wide use of shells in engineering is related to several advantages. These structures show an extraordinary efficiency in bearing with external loads, a high degree of resistance, good stiffness and a high strength-to-weight ratio. For these reasons, doubly-curved shells have been the main topic of several researches from 1940 up to date.

A shell is a three-dimensional solid that can be studied with the classical theory of elasticity. However, the calculations based on this kind of theory could be computationally burdensome, since these models require a huge number of degrees of freedom. The initial three-dimensional problem is reduced to a two-dimensional one defined on the middle surface of the structure through the introduction of appropriate hypotheses. In addition to the classic theory of elasticity (*3D Elasticity*), several *Higher-order Shear Deformation Theories*

(HSDTs), characterized by different kinematic models, have been developed and analyzed. The theoretical framework on which these theories are based is given by the so-called *Carrera Unified Formulation* (CUF). The formulation in hand has allowed the study and the consequent implementation in a computational code of two different approaches to deal with composite doubly-curved shells: the *Equivalent Single Layer* (ESL) and the *Layer-Wise* (LW). The first approach uses a kinematic expansion of the generalized displacements referred to the shell middle surface; the second one, instead, considers the displacements on the lower and upper surfaces of each layer within the laminate as main degrees of freedom, whereas the intermediate displacements represent the kinematic expansion of the model. Note that the CUF includes most of the classical theories, such as the *Classical Shell Theories* (CSTs) and the *First-order Shear Deformation Theories* (FSDTs). Examples of these approaches are the Kirchhoff-Love and Reissner-Mindlin theories, respectively.

The geometries under investigation includes doubly-curved shells and panels (shells of revolution and shells of translations), singly-curved shells (conical, cylindrical and spherical shells), and degenerate shells (circular and rectangular plates). By means of the differential geometry, it has been possible to evaluate all the geometric parameters involved in the governing equations of the considered structures. In the more general circumstance of arbitrarily-shaped shells, the coefficients at issues, such as the main radii of curvature, have been defined in a principal and orthogonal curvilinear coordinate system. In addition, *free-form* shells and panels have been investigated. Their peculiar shapes have been mathematically defined by means of the so-called *Bézier curves*.

The structural theories that describe the mechanical behavior of a singly-curved shell of translation are used also to deduce the corresponding higher-order theories for planar beams with curvilinear axis made of composite materials. The Carrera Unified Formulation still represents the theoretical framework of the theories at issue. Nevertheless, the expansion along the width coordinate has been neglected in order to analyze arches and beams characterized by variable cross-sections and curvatures.

The validity of these models has been proven by many numerical applications, in terms of dynamic and static behavior. In particular, a posteriori stress and strain recovery procedure has been developed for the static analysis. This procedure has allowed to obtain useful results for the structural design, by using the three-dimensional elasticity equations. This aims at avoiding the delamination, an issue that typically affects laminated composites. All the results have been accomplished by means of a MATLAB code and can be easily reproduced again. The comparison with the values obtained by some commercial codes, such as Ansys, Nastran, Abaqus, Femap, VisualNastran Desktop, Pro\Engineer and Straus, has allowed to validate each structural model.

### ***Arches & Beams***

1. E. Viola, F. Tornabene (2005) - Vibration Analysis of Damaged Circular Arches with Varying Cross-section, Structural Integrity and Durability (SID-SDHM) 1(2), 155-169. (IF2005 -, ISSN: 1930-2983).
2. E. Viola, M. Dilena, F. Tornabene (2007) - Analytical and Numerical Results for Vibration Analysis of Multi-Stepped and Multi-Damaged Circular Arches, Journal of Sound and Vibration 299(1-2), 143-163. (IF2007 1.024, ISSN: 0022-460X).

3. E. Viola, L. Panzacchi, F. Tornabene (2007) - General Analysis and Application to Redundant Arches under Static Loading, *Construction and Building Materials* 21(5), 1129-1143. (IF2007 0.841, ISSN: 0950-0618).
4. A. Marzani, F. Tornabene, E. Viola (2008) - Nonconservative Stability Problems via Generalized Differential Quadrature Method, *Journal of Sound and Vibration* 315(1-2), 176-196. (IF2008 1.364, ISSN: 0022-460X).
5. F. Tornabene, A. Marzani, E. Viola, I. Elishakoff (2010) - Critical Flow Speeds of Pipes Conveying Fluid by the Generalized Differential Quadrature Method, *Advances in Theoretical and Applied Mechanics* 3(3), 121-138. (IF2010 -, ISSN: 1313-6550).
6. G. Carpentieri, F. Tornabene, L. Ascione, F. Fraternali (2015) - An Accurate One-Dimensional Theory for the Dynamics of Laminated Composite Curved Beams, *Journal of Sound and Vibration* 336(1), 96-105. (IF2015 2.107, ISSN: 0022-460X).
7. R. Dimitri, F. Tornabene (2015) - A Parametric Investigation of the Seismic Capacity for Masonry Arches and Portals of Different Shapes, *Engineering Failure Analysis* 52(1), 1-34. (IF2013 1.130, ISSN: 1350-6307).
8. 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* 114, 277-314. (IF2015 2.481, ISSN: 0020-7403).
9. F. Tornabene, N. Fantuzzi, M. Baccocchi (2018) - Refined Shear Deformation Theories for Laminated Composite Arches and Beams with Variable Thickness: Natural Frequency Analysis, *Engineering Analysis with Boundary Elements* 100, 24-47. (IF2016 1.721, ISSN: 0955-7997).
10. F. Fazzolari, S. Scott, F. Tornabene (2021) - A 1D Ritz-Jacobi Formulation for the Modal Analysis of 3D Anisotropic Laminated Composite and Soft-Core Sandwich Beam Structures Through 2D Polynomials, *Thin-Walled Structures* 169(1) 108428, 1-21. (IF2018 4.488, ISSN: 0263-8231).

### ***Plates & Shells***

11. E. Viola, F. Tornabene (2006) - Vibration Analysis of Conical Shell Structures Using GDQ Method, *Far East Journal of Applied Mathematics* 25(1), 23-39. (IF2006 -, ISSN: 0972-0960).
12. F. Tornabene, E. Viola (2007) - Vibration Analysis of Spherical Structural Elements Using the GDQ Method, *Computers and Mathematics with Applications* 53(10), 1538-1560. (IF2007 0.72, ISSN: 0898-1221).
13. F. Tornabene, E. Viola (2008) - 2-D Solution for Free Vibrations of Parabolic Shells Using Generalized Differential Quadrature Method, *European Journal of Mechanics - A/Solids* 27(6), 1001-1025. (IF2008 1.674, ISSN: 0997-7538). 14th Position in the TOP 25 Hottest Articles for *European Journal of Mechanics - A/Solids*, July to September 2008. 3th Position in the TOP 25 Hottest Articles for *European Journal of Mechanics - A/Solids*, October to December 2008. Included in Most Cited *European Journal of Mechanics - A/Solids* Articles (<http://www.journals.elsevier.com/european-journal-of-mechanics-asolids/most-cited-articles/>).
14. F. Tornabene (2011) - Free Vibrations of Laminated Composite Doubly-Curved Shells and Panels of Revolution via the GDQ Method, *Computer Methods in Applied Mechanics and Engineering* 200(9-12), 931-952. (IF2011 2.651, ISSN: 0045-7825).
15. F. Tornabene (2011) - 2-D GDQ Solution for Free Vibrations of Anisotropic Doubly-Curved Shells and Panels of Revolution, *Composite Structures* 93(7), 1854-1876. (IF2011 2.24, ISSN: 0263-8223).
16. F. Tornabene (2011) - Free Vibrations of Anisotropic Doubly-Curved Shells and Panels of Revolution with a Free-Form Meridian Resting on Winkler-Pasternak Elastic Foundations, *Composite Structures* 94(1), 186-206. (IF2011 2.24, ISSN: 0263-8223).
17. F. Tornabene, A. Liverani, G. Caligiana (2012) - Laminated Composite Rectangular and Annular Plates: A GDQ Solution for Static Analysis with a Posteriori Shear and Normal Stress Recovery, *Composites Part B Engineering* 43(4), 1847-1872. (IF2012 2.143, ISSN: 1359-8368).
18. F. Tornabene, A. Liverani, G. Caligiana (2012) - Static Analysis of Laminated Composite Curved Shells and Panels of Revolution with a Posteriori Shear and Normal Stress Recovery Using Generalized Differential Quadrature Method, *International Journal of Mechanical Sciences* 61(1), 71-87. (IF2012 1.613, ISSN: 0020-7403).
19. F. Tornabene, A. Liverani, G. Caligiana (2012) - General Anisotropic Doubly-Curved Shell Theory: A Differential Quadrature Solution for Free Vibrations of Shells and Panels of Revolution with a Free-Form Meridian, *Journal of Sound and Vibration* 331(22), 4848-4869. (IF2012 1.613, ISSN: 0022-460X).
20. A.J.M. Ferreira, E. Viola, F. Tornabene, N. Fantuzzi, A.M. Zenkour (2013) - Analysis of Sandwich Plates by Generalized Differential Quadrature Method, *Mathematical Problems in Engineering* Vol. 2013, Article ID 964367, 1-22, <http://dx.doi.org/10.1155/2013/964367>. (IF2013 1.082, ISSN: 1024-123X).
21. F. Tornabene, A. Ceruti (2013) - Free-Form Laminated Doubly-Curved Shells and Panels of Revolution Resting on Winkler-Pasternak Elastic Foundations: A 2-D GDQ Solution for Static and Free Vibration Analysis, *World Journal of Mechanics* 3(1), 1-25. (IF2013 -, ISSN: 2160-049X).
22. F. Tornabene, N. Fantuzzi, E. Viola, A.J.M. Ferreira (2013) - Radial Basis Function Method Applied to Doubly-Curved Laminated Composite Shells and Panels with a General Higher-Order Equivalent Single Layer Theory, *Composites Part B Engineering* 55, 642-659. (IF2013 2.602, ISSN: 1359-8368).



23. F. Tornabene, E. Viola (2013) - Static Analysis of Functionally Graded Doubly-Curved Shells and Panels of Revolution, *Meccanica* 48(4), 901-930. (IF2013 1.815, ISSN: 0025-6455).
24. F. Tornabene, E. Viola, N. Fantuzzi (2013) - General Higher-order Equivalent Single Layer Theory for Free Vibrations of Doubly-Curved Laminated Composite Shells and Panels, *Composite Structures* 104(1), 94-117. (IF2013 3.12, ISSN: 0263-8223).
25. E. Viola, F. Tornabene, N. Fantuzzi (2013) - General Higher-Order Shear Deformation Theories for the Free Vibration Analysis of Completely Doubly-Curved Laminated Shells and Panels, *Composite Structures* 95(1), 639-666. (IF2013 3.12, ISSN: 0263-8223).
26. E. Viola, F. Tornabene, N. Fantuzzi (2013) - Static Analysis of Completely Doubly-Curved Laminated Shells and Panels Using General Higher-Order Shear Deformation Theories, *Composite Structures* 101(1), 59-93. (IF2013 3.12, ISSN: 0263-8223). Included (30 May 2013) in the Most Downloaded Composite Structures Articles in the last 90 days (<http://www.journals.elsevier.com/composite-structures/most-downloaded-articles/>).
27. A.J.M. Ferreira, E. Carrera, M. Cinefra, E. Viola, F. Tornabene, N. Fantuzzi, A.M. Zenkour (2014) - Analysis of Thick Isotropic and Cross-Ply Laminated Plates by Generalized Differential Quadrature Method and a Unified Formulation, *Composites Part B Engineering* 58(1), 544-552. (IF2014 2.983, ISSN: 1359-8368).
28. F. Tornabene, N. Fantuzzi, M. Baccocchi (2014) - The Local GDQ Method Applied to General Higher-Order Theories of Doubly-Curved Laminated Composite Shells and Panels: The Free Vibration Analysis, *Composite Structures* 116(1), 637-660. (IF2014 3.318, ISSN: 0263-8223).
29. F. Tornabene, N. Fantuzzi, M. Baccocchi (2014) - Free Vibrations of Free-Form Doubly-Curved Shells Made of Functionally Graded Materials Using Higher-Order Equivalent Single Layer Theories, *Composites Part B Engineering* 67(1), 490-509. (IF2014 2.983, ISSN: 1359-8368).
30. F. Tornabene, N. Fantuzzi, E. Viola, E. Carrera (2014) - Static Analysis of Doubly-Curved Anisotropic Shells and Panels using CUF Approach, Differential Geometry and Differential Quadrature Method, *Composite Structures* 107, 675-697. (IF2014 3.318, ISSN: 0263-8223). Winner of the IAN MARSHALL'S AWARD for Best Student Paper at the ICCS17 - 17th International Conference on Composite Structures, June 21, 2013.
31. F. Tornabene, N. Fantuzzi, E. Viola, J.N. Reddy (2014) - Winkler-Pasternak Foundation Effect on the Static and Dynamic Analyses of Laminated Doubly-Curved and Degenerate Shells and Panels, *Composites Part B Engineering* 57(1), 269-296. (IF2014 2.983, ISSN: 1359-8368).
32. E. Viola, L. Rossetti, N. Fantuzzi, F. Tornabene (2014) - Static Analysis of Functionally Graded Conical Shells and Panels Using the Generalized Unconstrained Third Order Theory Coupled with the Stress Recovery, *Composite Structures* 112(1), 44-65. (IF2014 3.318, ISSN: 0263-8223).
33. F. Tornabene, S. Brischetto, N. Fantuzzi, E. Viola (2015) - Numerical and Exact Models for Free Vibration Analysis of Cylindrical and Spherical Shell Panels, *Composites Part B Engineering* 81(1), 231-250. (IF2015 3.850, ISSN: 1359-8368).
34. 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* 133(1), 278-299. (IF2015 3.853, ISSN: 0263-8223).
35. 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* 97(1), 114-129. (IF2015 2.063, ISSN: 0263-8231).
36. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2015) - Accurate Inter-Laminar Recovery for Plates and Doubly-Curved Shells with Variable Radii of Curvature Using Layer-Wise Theories, *Composite Structures* 124(1), 368-393. (IF2015 3.853, ISSN: 0263-8223).
37. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2015) - A New Approach for Treating Concentrated Loads in Doubly-Curved Composite Deep Shells with Variable Radii of Curvature, *Composite Structures* 131(1), 433-452. (IF2015 3.853, ISSN: 0263-8223).
38. E. Viola, F. Tornabene, N. Fantuzzi (2015) - Stress and Strain Recovery of Laminated Composite Doubly-Curved Shells and Panels Using Higher-Order Formulations, *Key Engineering Materials* 624, 205-213. (IF2015 -, ISSN: 1662-9795).
39. F. Tornabene (2016) - General Higher Order Layer-Wise Theory for Free Vibrations of Doubly-Curved Laminated Composite Shells and Panels, *Mechanics of Advanced Materials and Structures* 23(9), 1046-1067. (IF2015 1, ISSN: 1537-6494).
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## 2.2.2 Innovative and Smart Materials

Due to the recent development in the material field, a special attention has been paid to innovative materials, such as *Functionally Graded Materials* (FGMs), which allows to define variable mechanical properties along the shell thickness. In particular, three different distributions have been considered to define the volume fraction of their constituents: a *five-parameter power law*, the *Weibull distribution* and an *exponential distribution*. The effect of the variation of the parameters that characterize these laws on the natural frequencies, as well as on the static response, has been investigated by means of several numerical applications. The theory of mixture and the Mori-Tanaka scheme have been used to evaluate the overall mechanical properties of the FGMs.

Composites reinforced by *Carbon Nanotubes* (CNTs) are another example of the application of innovative materials. It is possible, in fact, to improve the mechanical behavior of the structures in terms of stiffness and strength by inserting these nanoparticles within the layers.

Finally, the so-called *Variable Angle Tow* (VAT) composites have been investigated in the field of the innovative materials. These composites are characterized by variable mechanical properties within the reference domain. In particular, these materials allow to design more efficiently the mechanical properties of a composite layer, in order to improve the mechanical response of a structure. The mathematical description of the variable properties has been obtained by means of a general law that is able to define the curvilinear paths of the reinforcing fibers. Several parametric studies have been performed to investigate the effect of the orientation of the fibers on the dynamic and static responses of plates and shells. The same mathematical formulation has been used also to characterize the variable thickness of the same structures or directly the mechanical features of the structure in terms of elastic coefficients.

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### 2.2.3 Computational Mechanics and Numerical Techniques

As far as the topic of numerical methods is concerned, the Generalized Differential Quadrature (GDQ) method has been investigated and proposed as an alternative to the classical schemes, such as the finite differences or the finite element methods. The GDQ method has been developed by Shu to improve the differential quadrature approach proposed by Bellman in the Seventies. In particular, several approaches able to evaluate the weighting coefficients required to approximate the derivatives of any order have been investigated. To this aim, the differential quadrature based on the Lagrange Polynomials (*Polynomial Differential Quadrature* or PDQ) and the one based on the Fourier expansion (*Harmonic Differential Quadrature* or HDQ) have been considered.

It is well-known that various approaches available in the literature are characterized by the use of different basis functions for the functional approximation and different grid point distributions required to define the position of the discrete points within the reference domain. For this purpose, a general approach able to evaluate the weighting coefficients for different basis functions and discrete distributions has been proposed. In addition, the expressions of the main basis functions, as well as the grid point distributions, have been presented. The class of *Radial Basis Functions* (RBFs) has been also used as basis functions. These functions, in fact, depend on the radial distance among the discrete nodes of the domain. All these approaches can be employed also in local form to reduce the computational cost. The *Local Generalized Differential Quadrature* (LGDQ) method have been developed for this purpose.

Moreover, a numerical integration procedure that employes the weighting coefficients evaluated for the differential quadrature has been developed, since many applications require the evaluation of integrals. Thus, the *Generalized Integral Quadrature* (GIQ) method, developed by Shu as the counterpart of the GDQ, has been considered to this aim. Even this technique can be used taking into account various basis functions and grid distributions. In order to emphasize this aspect, different classical integration schemes have been considered, such as the trapezoidal rule or the Simpson's method. In addition, the general approaches for the



differential and integral quadrature methods can be easily extended to multi-dimensional cases. A simple and compact mathematical formulation for the evaluation of the weighting coefficients has been developed to this aim. Finally, the accuracy of the GDQ and GIQ methods has been proven by several numerical applications in the structural field.

Generally, practical engineering problems are complex due to geometry, material and load discontinuities. It is necessary, for solving them, to divide the whole domain using finite elements of arbitrary shape. These subdomains can be reasonably called finite elements due to the evident analogy with the FEM techniques. The necessity of studying arbitrarily shaped domains or domains characterized by mechanical and geometrical discontinuities leads to the development of a new numerical approach that divide the structure in finite elements and the strong form of the fundamental equations is solved inside each element. The fundamental aspects of this technique, named *Strong Formulation Finite Element Method (SFEM)*, have been discussed. The starting point is the differential quadrature method. The mapping technique, used also in the finite element methods, transforms an arbitrarily shaped element into a regular element (*computational element*). In other words, the SFEM means a numerical procedure that divides the physical domain in finite elements and uses the differential quadrature to solve the strong form equations inside each element mapped into the computational space. This approach differs from the classical Finite Element Method (FEM) because the problem at the element level is solved using the weak (or variational) formulation. Several practical applications regarding the static and dynamic behavior of plates, membranes and plane stress and strain states are reported to study the convergence and stability characteristics and reliability of this numerical technique.

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- 166.E. Viola, F. Tornabene, E. Ferretti, N. Fantuzzi (2013) - GDQFEM Numerical Simulations of Continuous Media with Cracks and Discontinuities, *CMES* 94(4), 331-368. (IF2013 1.183, ISSN: 1526-1492).
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- 180.E. Viola, F. Tornabene, N. Fantuzzi, M. Baccocchi (2017) - Numerical Investigation of Composite Materials with Inclusions and Discontinuities, *Key Engineering Materials* 747(1), 69-76. (IF2015 -, ISSN: 1662-9795).
- 181.N. Fantuzzi, F. Tornabene, M. Baccocchi, A.J.M. Ferreira (2018) - On the Convergence of Laminated Composite Plates of Arbitrary Shape through Finite Element Models, *Journal of Composites Science* 2(1), 16, 1-50. (IF2018 -, ISSN: 2504-477X).
- 182.F. Tornabene, N. Fantuzzi, M. Baccocchi (2018) - Strong and Weak Formulations Based on Differential and Integral Quadrature Methods for the Free Vibration Analysis of Composite Plates and Shells: Convergence and Accuracy, *Engineering Analysis with Boundary Elements* 92, 3-37. (IF2016 1.721, ISSN: 0955-7997).

## 2.2.4 Other research topics (Fracture Mechanics, Experimental Mechanics)

Some additional topics have been also investigated, such as fracture mechanics and experimental mechanics.

- 183.A. Piva, E. Viola, F. Tornabene (2005) - Crack Propagation in an Orthotropic Medium with Coupled Elastodynamic Properties, *Mechanics Research Communications* 32(2), 153-159. (IF2005 0.586, ISSN: 0093-6413).
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- 185.A. Piva, E. Viola, F. Tornabene (2006) - Elastodynamic Degenerate States for a Crack in an Orthotropic Medium, *Meccanica* 41(4), 363-373. (IF2006 0.4, ISSN: 0025-6455).
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192. R. Dimitri, Y. Li, N. Fantuzzi, F. Tornabene (2017) - An Innovative Modeling of the Crack Path and Stress Intensity Factor for Arbitrary Shaft Configurations, *Advanced Materials and Technologies* 5, 20-35. (IF2015 -, ISSN: 2414-4606).
193. 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* 40(3), 391-411. (IF2015 1.838, ISSN: 1460-2695).

- 194.R. Dimitri, F. Tornabene (2018) - Numerical Study of the Mixed-Mode Delamination of Composite Specimens, *Journal of Composites Science* 2(2), 30, 1-33. (IF2018 -, ISSN: 2504-477X).
- 195.R. Dimitri, F. Tornabene, G. Zavarise (2018) - Analytical and Numerical Modeling of the Mixed-Mode Delamination Process for Composite Moment-Loaded Double Cantilever Beams, *Composite Structures* 187(3), 535-553. (IF2015 3.853, ISSN: 0263-8223).
- 196.R. Jiwari, S. Tomasiello, F. Tornabene (2018) - A Numerical Algorithm for Computational Modelling of Coupled Advection-Diffusion-Reaction Systems, *Engineering Computations* 35(3), 1383-1401. (IF2016 1.010, ISSN: 0264-4401).
- 197.R. Dimitri, F. Tornabene, J.N. Reddy (2020) - Numerical Study of the Mixed-Mode Behavior of Generally-Shaped Composite Interfaces, *Composite Structures* 237(1) 111935, 1-18. (IF2018 4.829, ISSN: 0263-8223).
- 198.R. Dimitri, M. Rinaldi, M. Trullo, F. Tornabene, C. Fidelibus (2021) - FEM/XFEM Modeling of the 3D Fracturing Process in Transversely Isotropic Geomaterials, *Composite Structures* 276(1) 114502, 1-18. (IF2018 4.829, ISSN: 0263-8223).

## 2.3 List of Publications

### 2.3.1 Papers published in International Journals

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### **2.3.2 International Monographs**

202. E. Viola, F. Tornabene (2007) - Dynamical Analysis of Spherical Shell Structural Elements Using the First-order Shear Deformation Theory, *Mechanical Vibration: Where do we stand?*, CISM Courses and Lectures no. 488, 17-41, ed. by I. Elishakoff, Springer - Wien, New York.

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209. A.J.M. Ferreira, E. Viola, F. Tornabene, N. Fantuzzi (2017) - 3rd International Conference on Mechanics of Composites, Esculapio, Bologna. ISBN: 978-88-9385-029-2. ISSN: 2421-2822.
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228. F. Tornabene, R. Dimitri (2015) - Stabilità dell'Equilibrio Elastico, Esculapio, Bologna. ISBN: 978-88-7488-845-0.
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231. F. Tornabene (2017) - Teoria delle Strutture a Guscio in Materiale Composito, Esculapio, Bologna. ISBN: 978-88-9385-000-1. ISSN: 2421-2822.

### **2.3.4 Publications in International Conferences**

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233. F. Tornabene, E. Viola (2005) - The Effect of Cracks on the Dynamic Response of Circular Arches with Varying Cross-section by G.D.Q.E. Technique, IV° International Conference on Fracture and Damage Mechanics (FDM2005), Mallorca, Spain, 12-14 July 2005. In: M.H. Aliabadi et al. (eds.), *Advances in Fracture and Damage Mechanics IV*, 295-300.
234. F. Tornabene, E. Viola (2006) - Differential Quadrature Solution for Parabolic Structural Shell Elements, III° European Conference on Computational Mechanics (ECCM2006), Lisbon, Portugal, 5-8 June 2006. In: C.A. Mota Soares et al. (eds.), *Solids, Structures and Coupled Problems in Engineering*, 393.
235. F. Tornabene, F. Ubertini, E. Viola (2007) - The Generalized Differential Quadrature Method for Solving Initial-value Problems in Linear Dynamics, International Symposium on Recent Advances in Mechanics, Dynamical Systems and Probability Theory (MDP 2007), Palermo, Italy, 3-6 June 2007.
236. F. Tornabene, E. Viola (2008) - A Generalized Differential Quadrature Solution for Laminated Composite Shells of Revolution, VIII° World Congress on Computational Mechanics (WCCM2008) - V° European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS2008), Venezia, Italy, 30 June - 4 July 2008.
237. F. Tornabene, S. Abrate (2012) - Free Vibrations of Doubly Curved Functionally Graded Shells, International Conference on Mechanics of Nano, Micro and Macro Composite Structures (ICMNMCS2012), Torino, Italy, 18-20 June 2012. In: A. J. M. Ferreira, E. Carrera (eds.), *Mechanics of Nano, Micro and Macro Composite Structures*.
238. F. Tornabene, A. Liverani, G. Caligiana (2012) - Static Analysis with Normal and Shear Stress Recovery for Anisotropic Doubly-Curved Shell Panels Using the Differential Geometry and the GDQ Method, International Conference on Mechanics of Nano, Micro and Macro Composite Structures (ICMNMCS2012), Torino, Italy, 18-20 June 2012. In: A. J. M. Ferreira, E. Carrera (eds.), *Mechanics of Nano, Micro and Macro Composite Structures*.
239. N. Fantuzzi, F. Tornabene, E. Viola (2013) - Free Vibrations of Functionally Graded Cracked Plates of Arbitrary Shape via GDQFEM, 6th ECCOMAS Thematic Conference on Smart Structures and Materials (SMART2013), Torino, Italy, 24-26 June 2013.
240. F. Tornabene, N. Fantuzzi, E. Viola (2013) - Layer-Wise and Equivalent-Single-Layer Theories for Laminated Composite Doubly-Curved Shells and Panels Using Differential Geometry and GDQ Method, 17th International Conference on Composite Structures (ICCS17), Porto, Portugal, 17-21 June 2013.
241. F. Tornabene, N. Fantuzzi, E. Viola (2013) - Dynamic and Static Analysis of Laminated Doubly-Curved Shells and Panels Using Layer-Wise and Equivalent-Single-Layer Theories via GDQ Method, The 21st International Conference on Composite/Nano Engineering (ICCE21), Tenerife, Spain, 21-27 July 2013.



242. F. Tornabene, N. Fantuzzi, E. Viola (2013) - Vibration Analysis of Laminated Doubly-Curved Shells and Panels Using Higher-Order Equivalent-Single-Layer and Layer-Wise Theories, 9th International Symposium on Vibrations of Continuous Systems (ISVCS13), Courmayeur, Italy, 22-26 July 2013.
243. E. Viola, F. Tornabene, N. Fantuzzi (2013) - Generalized Differential Quadrature Finite Element Method for Arbitrary Shaped Composite Structures, 17th International Conference on Composite Structures (ICCS17), Porto, Portugal, 17-21 June 2013.
244. E. Viola, F. Tornabene, E. Ferretti, N. Fantuzzi (2013) - On Static Analysis of Composite Plane State Structures via GDQFEM and Cell Method, International Conference on Computational and Experimental Engineering and Sciences (ICCES2013), Seattle, USA, 24-28 May 2013.
245. E. Viola, F. Tornabene, E. Ferretti, N. Fantuzzi (2013) - GDQFEM and Cell Method Numerical Simulations of Continuous Media with Cracks and Discontinuities, International Conference on Computational and Experimental Engineering and Sciences (ICCES2013), Seattle, USA, 24-28 May 2013.
246. E. Viola, F. Tornabene, E. Ferretti, N. Fantuzzi (2013) - Soft Core Plane State Structures Under Static Loads Using GDQFEM and Cell Method, International Conference on Computational and Experimental Engineering and Sciences (ICCES2013), Seattle, USA, 24-28 May 2013.
247. N. Fantuzzi, F. Tornabene, E. Viola (2014) - Multi-Layered Structures of Arbitrary Shape via Generalized Differential Quadrature Finite Element Method, 1st International Conference on Mechanics of Composites (MECHCOMP2014), Stony Brook, USA, 8-12 June 2014.
248. N. Fantuzzi, F. Tornabene, E. Viola (2014) - Dynamic and Static Behavior of Arbitrarily Shaped Laminated Composite Plates via Strong Formulation Finite Element Method, The 22th International Conference on Composite/Nano Engineering (ICCE22), Malta, 13-19 July 2014.
249. E. Viola, F. Tornabene, N. Fantuzzi (2014) - Stress and Strain Recovery of Laminated Composite Doubly-Curved Shells and Panels Using Higher-Order Formulations, Mechanics of Masonry Structures Strengthened with Composite Materials, Modeling, Testing, Design, Control (MuRiCo4), Ravenna, Italy, 9-11 September 2014.
250. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2015) - The Strong Formulation Finite Element Method Applied to Structural Mechanics Problems, GAMM 86th Annual Scientific Conference (GAMM2015), Lecce, Italy, 23-27 March 2015.
251. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2015) - Advanced Applications for Laminated Doubly-Curved Shells with Variable Curvatures, 18th International Conference on Composite Structures (ICCS18), Porto, Portugal, 15-18 June 2015.
252. N. Fantuzzi, F. Tornabene, E. Viola (2015) - Strong Formulation Finite Element Method for Arbitrary Shaped Composite Structures, 18th International Conference on Composite Structures (ICCS18), Porto, Portugal, 15-18 June 2015.

253. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2015) - Computational Models for Laminated Doubly-Curved Shells with Variable Radii of Curvatures Using Weak and Strong Formulations, 9th European Solid Mechanics Conference (ESMC2015), Madrid, Spain, 6-10 July 2015.
254. N. Fantuzzi, M. Baccocchi, F. Tornabene, E. Viola (2015) - Static and Dynamic Analyses of Arbitrarily Shaped Laminated Composite Structures, International Conference on Shells, Plates and Beams (SPB2015), Bologna, Italy, 9-11 September 2015.
255. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2015) - Higher-Order Theories for the Structural Analysis of Doubly-Curved Shells and Panels Made of Innovative Materials, International Conference on Shells, Plates and Beams (SPB2015), Bologna, Italy, 9-11 September 2015.
256. N. Fantuzzi, F. Tornabene, M. Baccocchi, E. Viola (2016) - Moving Least Squares Differential Quadrature Based on Radial Basis Functions for the Vibration Analysis of Beams, Plates and Shells, International Conference on Vibrations and Buckling 2016 (VibBuck2016), Porto, Portugal, 7-9 March 2016.
257. N. Fantuzzi, F. Tornabene, M. Baccocchi, E. Viola (2016) - Mechanics of Arbitrarily Shaped Composite Structures Using Isogeometric Mapping, 2nd International Conference on Mechanics of Composites (MECHCOMP2), Porto, Portugal, 11-14 July 2016.
258. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2016) - Higher-Order Theories for the Structural Analysis of Doubly-Curved Shells with Variable Mechanical Properties, 2nd International Conference on Mechanics of Composites (MECHCOMP2), Porto, Portugal, 11-14 July 2016.
259. N. Fantuzzi, F. Tornabene, M. Baccocchi, E. Viola (2016) - Isogeometric Analysis of Composite Structures Through Mapping Using Blending Functions, 19th International Conference on Composite Structures (ICCS19), Porto, Portugal, 5-9 September 2016.
260. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2016) - A General Formulation Based on Higher-Order Theories for the Static and Dynamic Analysis of Doubly-Curved Structures with Variable Mechanical and Geometrical Properties, 19th International Conference on Composite Structures (ICCS19), Porto, Portugal, 5-9 September 2016.
261. N. Fantuzzi, F. Tornabene, M. Baccocchi, R. Dimitri (2016) - Free Vibration Analysis of Functionally Graded Carbon Nanotube-Reinforced Composite Plates with Arbitrary Domains and Discontinuities, Multiscale Innovative Materials and Structures (MIMS16), Cetara, Italy, 28-30 October 2016.
262. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2016) - Static and Dynamic Behavior of Functionally Graded Carbon Nanotube-Reinforced Laminated Composite Doubly-Curved Shells: Higher-Order Structural Approaches, Multiscale Innovative Materials and Structures (MIMS16), Cetara, Italy, 28-30 October 2016.
263. E. Viola, F. Tornabene, N. Fantuzzi, M. Baccocchi (2017) - Numerical Investigation of Composite Materials with Inclusions and Discontinuities, Mechanics of Masonry Structures Strengthened with Composite Materials, Modeling, Testing, Design, Control (MuRiCo5), Bologna, Italy, 28-30 June 2017.

264. N. Fantuzzi, F. Tornabene, M. Bacciocchi, E. Viola (2017) - Mechanics of Structural Components by Using a Numerical Approach Based on Blending Functions Mapping and a Strong Formulation, 3rd International Conference on Mechanics of Composites (MECHCOMP3), Bologna, Italy, 4-7 July 2017.
265. F. Tornabene, N. Fantuzzi, M. Bacciocchi, E. Viola (2017) - Investigation on the Structural Response of Plates and Shells with Variable Mechanical Properties: Modeling of the Damage, 3rd International Conference on Mechanics of Composites (MECHCOMP3), Bologna, Italy, 4-7 July 2017.
266. F. Tornabene, N. Fantuzzi, M. Bacciocchi, E. Viola (2017) - Nanocomposite Plates and Shells Reinforced by Agglomerated Carbon Nanotubes: Static and Dynamic Analysis, The 25th International Conference on Composite/Nano Engineering (ICCE25), Roma, Italy, 16-22 July 2017.
267. N. Fantuzzi, L. Leonetti, P. Trovalusci, F. Tornabene (2017) - Some Novel Numerical Applications of Cosserat Continua, 8th International Conference on Computational Methods (ICCM2017), Guilin, China, 25-29 July 2017.
268. N. Fantuzzi, F. Tornabene, M. Bacciocchi, E. Viola (2017) - Composite Structures of Arbitrary Shape by Using Nonlinear Isogeometric Mapping, 20th International Conference on Composite Structures (ICCS20), Paris, France, 4-7 September 2017.
269. F. Tornabene, N. Fantuzzi, M. Bacciocchi, E. Viola (2017) - Mechanical Behavior of Damaged Laminated Composites Plates and Shells: Higher-Order Shear Deformation Theories, 20th International Conference on Composite Structures (ICCS20), Paris, France, 4-7 September 2017.
270. F. Tornabene, N. Fantuzzi, M. Bacciocchi (2017) - Isogeometric Analysis of Arbitrarily Shaped Structures: A Numerical Approach Based on the Strong Formulation, V International Conference on Isogeometric Analysis (IGA2017), Pavia, Italy, 11-13 September 2017.
271. F. Tornabene, N. Fantuzzi, M. Bacciocchi (2017) - A Numerical Approach Based on the GDQ Method for the Linear Static Analysis of Laminated Composite Shells Subjected to Point and Line Loads, IV ECCOMAS Young Investigator Conference (YIC2017), Milano, Italy, 13-15 September 2017.
272. F. Tornabene, N. Fantuzzi, M. Bacciocchi (2017) - How to Easily Model Doubly Curved Shells with Variable Radii of Curvature, The 11th Conference on Shell Structures: Theory and Applications (SSTA11), Gdańsk, Poland, 11-13 October 2017.
273. F. Tornabene, N. Fantuzzi, M. Bacciocchi (2018) - Modelling of Damaged Laminated and Sandwich Shell Structures by means of Higher-order Shear Deformation Theories, 10th European Solid Mechanics Conference (ESMC2018), Bologna, Italy, 2-6 July 2018.
274. N. Fantuzzi, M. Bacciocchi, F. Tornabene (2018) - Peculiar Convergence and Accuracy for Laminated Moderately Thick Plates of Arbitrary Shape in Free Vibrations, 4th International Conference on Mechanics of Composites (MECHCOMP4), Madrid, Spain, 9-12 July 2018.
275. F. Tornabene, M. Bacciocchi, N. Fantuzzi (2018) - Critical Velocity Evaluation of Rotating Laminated Composite Doubly-Curved Shells, 4th International Conference on Mechanics of Composites (MECHCOMP4), Madrid, Spain, 9-12 July 2018.

276. R. Dimitri, F. Tornabene (2018) - Numerical Study of the Mixed-Mode Delamination of Generally-Shaped Composite Interfaces, 21th International Conference on Composite Structures (ICCS21), Bologna, Italy, 4-7 September 2018.
277. N. Fantuzzi, M. Baccocchi, F. Tornabene (2018) - Free Vibration Problem of Composite Plates of Arbitrary Shape: Where Do We Stand?, 21th International Conference on Composite Structures (ICCS21), Bologna, Italy, 4-7 September 2018.
278. F. Tornabene (2018) - Higher-Order Formulations for the Mechanical Analysis of Doubly-Curved Shell Structures Made of Advanced and Innovative Materials, 21th International Conference on Composite Structures (ICCS21), Bologna, Italy, 4-7 September 2018.
279. R. Dimitri, F. Tornabene (2018) - Advanced Modeling for the Mixed-Mode Delamination of Composite Specimens, 9th International Conference on Computational Methods (ICCM2018), Roma, Italy, 6-10 August 2018.
280. L. Leonetti, N. Fantuzzi, P. Trovalusci, F. Tornabene (2018) - Mechanical Behavior of Orthotropic Micropolar Continua Subjected to Localized Loads, 9th International Conference on Computational Methods (ICCM2018), Roma, Italy, 6-10 August 2018.
281. F. Tornabene, N. Fantuzzi, M. Baccocchi (2018) - An Innovative Numerical Approach for the Mechanical Analysis of Damaged Laminated Composite Structures, 9th International Conference on Computational Methods (ICCM2018), Roma, Italy, 6-10 August 2018.
282. R. Dimitri, F. Tornabene (2019) - Numerical Debonding Modelling of Curved Composite Specimens in Mixed-Mode Condition, International Conference on Nonlinear Solid Mechanics (ICoNSoM2019), Rome, Italy, 16-19 June 2019.
283. F. Tornabene, R. Dimitri (2019) - Vibration Analysis of Composite Laminated and Latticed Structures Based on Higher-Order Formulations, International Conference on Nonlinear Solid Mechanics (ICoNSoM2019), Rome, Italy, 16-19 June 2019.
284. R. Torre, S. Brischetto, F. Tornabene (2019) - Analytical and Semi-Analytical 3D Shell Models for Composite Structures, 5th International Conference on Mechanics of Composites (MECHCOMP5), Lisbon, Portugal, 1-4 July 2019.
285. F. Tornabene, R. Dimitri, S. Brischetto (2019) - Higher-Order Formulation for the Mechanical Analysis of Laminated and Latticed Shells with Complex Geometries and Materials, International Conference on Boundary Element Techniques (BETEQ2019), Palermo, Italy, 22-24 July 2019.
286. R. Torre, S. Brischetto, F. Tornabene (2019) - Cylindrical Bending in Composite Structures by Means of Analytical and Numerical 2D/3D Shell Models, 22th International Conference on Composite Structures (ICCS22), Wuhan, China, 31 October - 3 November 2019.
287. R. Dimitri, F. Tornabene (2020) - GDQ-Based Study of the Mixed-Mode Interfacial Response of Composite Specimens with a Curved Geometry, 1st Italian Workshop on Shell and Spatial Structures (IWSS2020), Torino, Italy, 25-26 June 2020.

288. F. Tornabene, R. Dimitri (2020) - Higher-Order Mechanical Modelling of Laminated and Latticed Composite Shells with a Complex Material and Geometry, 1st Italian Workshop on Shell and Spatial Structures (IWSS2020), Torino, Italy, 25-26 June 2020.
289. F. Fazzolari, M. Viscoti, R. Dimitri, F. Tornabene (2020) - 1D Hierarchical Ritz- and 2D GDQ-Based Approaches for the Mechanical Modeling of Thin-Walled Composite Structures, 23rd International Conference on Composite Structures (ICCS23) and 6th International Conference on Mechanics of Composites (MECHCOMP6), Porto, Portugal, 1-4 September 2020.
290. F. Tornabene, R. Dimitri (2020) - Advanced Higher-Order Mechanical Modelling of Anisotropic Doubly-Curved Shell Structures, 23rd International Conference on Composite Structures (ICCS23) and 6th International Conference on Mechanics of Composites (MECHCOMP6), Porto, Portugal, 1-4 September 2020.
291. F. Tornabene, R. Dimitri (2020) - Higher-Order Modeling of Anisogrid Lattice Shell Structures with Complex Geometries, 18th International Conference of Numerical Analysis and Applied Mathematics (ICNAAM2020), Rhodes, Greece, 17-23 September 2020.
292. F. Tornabene, R. Dimitri (2021) - Higher-Order Mechanical Modeling of Composite Materials and Structures, 14th World Congress in Computational Mechanics (WCCM XIV) and 8th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2020), Paris, France, 11-15 January 2021.
293. M. Avey, F. Tornabene (2021) - Linear Free Vibration Analysis of Panels Reinforced by Carbon Nanotubes in the Framework of Shear Deformation Theory, XXII National Mechanics Congress (TUMTMK21), Adana, Turkey, 6-10 September 2021.
294. M. Viscoti, R. Dimitri, F. Tornabene (2021) - Higher-Order Modelling of Latticed-Structures and Doubly-Curved Sandwich Plates and Shells with a Honeycomb and Grid Core, 24th International Conference on Composite Structures (ICCS24), Porto, Portugal, 14-18 June 2021.
295. M. Rinaldi, M. Trullo, F. Tornabene, R. Dimitri (2021) - Computational modeling based on XFEM and cohesive interfaces of the 3D fracturing process in anisotropic layered geomaterials, 7th International Conference on Mechanics of Composites (MECHCOMP7), Porto, Portugal, 1-3 September 2020.
296. M. Viscoti, R. Dimitri, F. Tornabene (2022) - Higher Order Theories for the Static and Free Vibration Analysis of Doubly-Curved Shells of Innovative Materials Enforced with General Boundary Conditions, 25th International Conference on Composite Structures (ICCS25), Porto, Portugal, 19-22 July 2022.
297. M. Rinaldi, M. Trullo, F. Tornabene, R. Dimitri (2022) - XFEM and Cohesive Modelling of the Fracturing Process in Anisotropic Layered Geomaterials, 8th International Conference on Mechanics of Composites (MECHCOMP8), Wuhan, China, 22-24 April 2022.

298. M. Viscoti, R. Dimitri, F. Tornabene (2022) - Static and Free Vibration Analysis of Generally Anisotropic Doubly-Curved Shells via the GDQ Method, International Conference on Nonlinear Solid Mechanics (ICoNSoM2022), Alghero, Italy, 13-16 June 2022.

### 2.3.5 Publications in National Conferences

299. E. Viola, F. Tornabene (2006) - Free Vibration Analysis of Shells of Revolution Using GDQ Method, XVI° Convegno Italiano di Meccanica Computazionale (GIMC 2006), Bologna, Italy, 26-28 June 2006. In: F. Ubertini et al. (eds.), Atti XVI° Convegno Italiano di Meccanica Computazionale, 93.
300. C. Boldrini, F. Tornabene, E. Viola (2007) - Analytical Formulation by Means of Complex Potentials of Crack Models in a Piezoelectric Material, Convegno Italiano “Materiali e Metodi Innovativi nell’Ingegneria Strutturale”, Catania, Italy, 4-6 July 2007. In: A. Badalà et al. (eds.), Materiali e Metodi Innovativi nell’Ingegneria Strutturale, 241-256.
301. F. Tornabene, E. Viola (2007) - Free Vibrations of Laminated Composite Hyperbolic Shells of Revolution Via GDQ Method, Convegno Italiano “Materiali e Metodi Innovativi nell’Ingegneria Strutturale”, Catania, Italy, 4-6 July 2007. In: A. Badalà et al. (eds.), Materiali e Metodi Innovativi nell’Ingegneria Strutturale, 257-272.
302. F. Tornabene, E. Viola (2007) - Free Vibration Analysis of Functionally Graded Doubly Curved Shell Structures Using GDQ Method, XVIII° Convegno Italiano dell’Associazione Italiana di Meccanica Teorica e Applicata (AIMETA 2007), Brescia, Italy, 11-14 September 2007. In: A. Carini et al. (eds.), XVIII° Congresso AIMETA di Meccanica Teorica e Applicata, 298-299.
303. F. Tornabene (2011) - Shear and Normal Stress Recovery for Anisotropic Shells and Panels of Revolution via the GDQ Method, XX° Convegno Italiano dell’Associazione Italiana di Meccanica Teorica e Applicata (AIMETA 2011), Bologna, Italy, 12-15 September 2011. In: F. Ubertini et al. (eds.), XX° Congresso AIMETA di Meccanica Teorica e Applicata, 281.
304. Tornabene, N. Fantuzzi, E. Viola (2013) - General Higher-Order Equivalent Single Layer and Layer Wise Theories for Laminated Composite Shells and Panels Using GDQ Method, XXI° Convegno Italiano dell’Associazione Italiana di Meccanica Teorica e Applicata (AIMETA2013), Torino, Italy, 17-20 September 2013.
305. E. Viola, F. Tornabene, N. Fantuzzi (2013) - Static Analysis of Arbitrarily Shaped Composite Plates via GDQFEM, XXI° Convegno Italiano dell’Associazione Italiana di Meccanica Teorica e Applicata (AIMETA2013), Torino, Italy, 17-20 September 2013.
306. F. Tornabene, N. Fantuzzi, M. Baccocchi (2014) - The Strong Formulation Finite Element Method: Stability and Accuracy, XX° Convegno Italiano di Meccanica Computazionale - VII Riunione del Gruppo Materiali AIMETA (GIMC-GMA2014), Cassino, Italy, 11-13 June 2014.
307. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2015) - Static and Dynamic Analyses of Doubly-Curved Composite Thick Shells with Variable Radii of Curvatures, XXII° Convegno Italiano

dell'Associazione Italiana di Meccanica Teorica e Applicata (AIMETA2015), Genova, Italy, 14-17 September 2015.

308. E. Viola, F. Tornabene, N. Fantuzzi, M. Baccocchi (2015) - Structural Mechanics Applications using Strong Formulation Finite Element Method, XXII° Convegno Italiano dell'Associazione Italiana di Meccanica Teorica e Applicata (AIMETA2015), Genova, Italy, 14-17 September 2015.
309. F. Tornabene, N. Fantuzzi, M. Baccocchi (2015) - Advanced Laminated Composite Applications for Doubly-Curved Shell Structural Components with Variable Curvature, XXIII° Conference of the Italian Association of Aeronautics and Astronautics (AIDAA2015), Torino, Italy, 17-19 November 2015.
310. R. Dimitri, N. Fantuzzi, F. Tornabene, G. Zavarise (2016) - A Comparative SFEM- and IGA-Based Numerical Prediction of the Stress Concentration Factor in Plates with Discontinuities, XXI° Convegno Italiano di Meccanica Computazionale - VIII Riunione del Gruppo Materiali AIMETA (GIMC-GMA2016), Lucca, Italy, 27-29 June 2016.
311. F. Tornabene, N. Fantuzzi, M. Baccocchi (2016) - Finite Element Method Based on a Strong Formulation Isogeometric Analysis, XXI° Convegno Italiano di Meccanica Computazionale - VIII Riunione del Gruppo Materiali AIMETA (GIMC-GMA2016), Lucca, Italy, 27-29 June 2016.
312. F. Tornabene, N. Fantuzzi, M. Baccocchi, E. Viola (2017) - Mechanical Behavior of Laminated Composite Shells with Arbitrary Domains: Comparison Between Weak and Strong Formulations, XXIII° Convegno Italiano dell'Associazione Italiana di Meccanica Teorica e Applicata (AIMETA2017), Salerno, Italy, 4-7 September 2015.
313. F. Tornabene, M. Baccocchi, N. Fantuzzi (2018) - Strong and Weak Formulations for the Analysis of Arbitrarily Shaped Laminated Composite Structures, XXII° Convegno Italiano di Meccanica Computazionale - IX Riunione del Gruppo Materiali AIMETA (GIMC-GMA2018), Ferrara, Italy, 13-14 September 2018.
314. L. Leonetti, N. Fantuzzi, P. Trovalusci, F. Tornabene (2018) - The Effect of Micro-Polar Rotation in 2D Cosserat Solids, XXII° Convegno Italiano di Meccanica Computazionale - IX Riunione del Gruppo Materiali AIMETA (GIMC-GMA2018), Ferrara, Italy, 13-14 September 2018.

## 2.4 Editorial Board Activities and Review

### 2.4.1 Editor-in-Chief of International Journals

- **Editor-In-Chief** of International Journals:

1. *Curved and Layered Structures* [ISSN: 2353-7396] (from 2014 to Today).
2. *Journal of Composites Science* [ISSN: 2504-477X] (from 2017 to Today).

- **Co-Editor** of International Journals:

1. *Science and Engineering of Composite Materials* [ISSN: 2191-0359] (from 2018 to Today).
2. *The Open Civil Engineering Journal* [ISSN: 1874-1495] (from 2017 to Today).

- **Associate Editor** of International Journals:

1. *Frontiers in Built Environment, Section Computational Methods in Structural Engineering* [ISSN: 2297-3362] (from 2020 to Today).
2. *Mechanics Based Design of Structures and Machines* [ISSN: 1539-7734] (from 2019 to Today).

- **Editor** of International Journals:

1. *HighTech and Innovation Journal* [ISSN: 2723-9535] (from 2020 to Today).
2. *Heliyon* [ISSN: 2405-8440] (from 2018 to Today).
3. *Mathematical Problems in Engineering* [ISSN: 1024-123X] (from 2015 to Today).

#### 2.4.2 Editor-In-Chief of International Book Series

- **Editor-In-Chief** of International Book Series:

1. *Structural and Computational Mechanics Book Series* [ISSN: 2421-2822] (from 2015 to Today).

#### 2.4.3 Guest Editor Activities

- **Guest Editor** of the following Special Issues:

1. Applications of Unified Formulation and Advanced Theories Using Several Numerical Approaches, *Mechanics of Advanced Materials and Structures* 23(9) [ISSN: 1537-6494] (2015-2016). [14 papers]  
<https://www.tandfonline.com/doi/abs/10.1080/15376494.2015.1121560>
2. Applications of Generalized Differential and Integral Quadrature Methods, *Applied Sciences* [ISSN: 2076-3417] (2016-2017). [6 papers]  
[https://www.mdpi.com/journal/applsci/special\\_issues/integral\\_quadrature\\_methods](https://www.mdpi.com/journal/applsci/special_issues/integral_quadrature_methods)
3. Functionally Graded Material (FGM) and Functionally Graded Carbon Nanotube (FG-CNT) Reinforced Composites, *Applied Sciences* [ISSN: 2076-3417] (2017-2018). [7 papers]  
[https://www.mdpi.com/journal/applsci/special\\_issues/fgm](https://www.mdpi.com/journal/applsci/special_issues/fgm)
4. Mechanics of Innovative Materials in Engineering Applications, *Journal of Composites Science* [ISSN: 2504-477X] (2018-2019). [6 papers]  
[https://www.mdpi.com/journal/jcs/special\\_issues/Engineering\\_Applications](https://www.mdpi.com/journal/jcs/special_issues/Engineering_Applications)
5. Advanced Theoretical and Computational Methods for Complex Materials and Structures, *Applied Sciences* [ISSN: 2076-3417] (2018-2019). [12 papers]  
[https://www.mdpi.com/journal/applsci/special\\_issues/complex\\_materials](https://www.mdpi.com/journal/applsci/special_issues/complex_materials)
6. Structural Mechanics of Composite Materials and Structures, *Molecules* [ISSN: 1420-3049] (2019-2020). [8 papers]  
[https://www.mdpi.com/journal/molecules/special\\_issues/Mechanics\\_Structures](https://www.mdpi.com/journal/molecules/special_issues/Mechanics_Structures)



7. Advanced Mechanical Modeling of Nano-Materials and Nano-Structures, *Nanomaterials* [ISSN: 1420-3049] (2019-2020). [11 papers]  
[https://www.mdpi.com/journal/nanomaterials/special\\_issues/mechanical\\_modeling](https://www.mdpi.com/journal/nanomaterials/special_issues/mechanical_modeling)
8. Feature Papers in Journal of Composites Science in 2019, *Journal of Composites Science* [ISSN: 2504-477X] (2019-2020). [21 papers]  
[https://www.mdpi.com/journal/jcs/special\\_issues/jcs\\_feature\\_papers\\_2019](https://www.mdpi.com/journal/jcs/special_issues/jcs_feature_papers_2019)
9. Recent Advances in Theoretical and Computational Modeling of Composite Materials and Structures, *Applied Sciences* [ISSN: 2076-3417] (2019-2020). [11 papers]  
[https://www.mdpi.com/journal/applsci/special\\_issues/Theoretical\\_and\\_Computational\\_Modeling](https://www.mdpi.com/journal/applsci/special_issues/Theoretical_and_Computational_Modeling)
10. Feature Papers in Journal of Composites Science in 2020, *Journal of Composites Science* [ISSN: 2504-477X] (2019-2020). [36 papers]  
[https://www.mdpi.com/journal/jcs/special\\_issues/jcs\\_feature\\_papers\\_2020](https://www.mdpi.com/journal/jcs/special_issues/jcs_feature_papers_2020)
11. Feature Papers in Journal of Composites Science in 2021, *Journal of Composites Science* [ISSN: 2504-477X] (2020-2021). [35 papers]  
[https://www.mdpi.com/journal/jcs/special\\_issues/jcs\\_feature\\_papers\\_2020](https://www.mdpi.com/journal/jcs/special_issues/jcs_feature_papers_2020)
12. Structural Dynamics and Vibration Control, *Vibration* [ISSN: 2571-631X] (2020-2021). [4 papers]  
[https://www.mdpi.com/journal/vibration/special\\_issues/Structural\\_Dynamics\\_and\\_Vibration\\_Control](https://www.mdpi.com/journal/vibration/special_issues/Structural_Dynamics_and_Vibration_Control)
13. Theoretical and Computational Modeling of Advanced Materials and Structures, *CMES* [ISSN: 1526-1492] (2021-2022).  
[https://www.techscience.com/CMES/special\\_detail/struc](https://www.techscience.com/CMES/special_detail/struc)
14. Advanced Theoretical and Computational Methods for Complex Materials and Structures (Volume 2), *Applied Sciences* [ISSN: 2076-3417] (2021-2022).  
[https://www.mdpi.com/journal/applsci/special\\_issues/complex\\_materials\\_v2](https://www.mdpi.com/journal/applsci/special_issues/complex_materials_v2)
15. 5th Anniversary of Nanotechnology and Applied Nanosciences Section - Recent Advances in Carbon Composites and Complex Materials, *Applied Sciences* [ISSN: 2076-3417] (2021-2022).  
[https://www.mdpi.com/journal/applsci/special\\_issues/5th\\_Anniversary\\_Nano](https://www.mdpi.com/journal/applsci/special_issues/5th_Anniversary_Nano)

#### 2.4.4 Member of the Editorial Board of International Journals

- Member of the **Editorial Board** of the following journals:

1. Annals of Applied Sciences (September 2021 – Today).
2. Journal of Engineering and Fundamental Research (April 2021 – Today).
3. World Journal of Textile Engineering and Technology (April 2021 – Today).
4. Journal of Basic & Applied Sciences (April 2021 – Today).
5. Frontiers in Built Environment (September 2020 – Today).
6. Advances in Environmental and Engineering Research (April 2020 – Today).
7. Journal of Physics and Advanced Applications (April 2020 – Today).

8. Journal of Civil Engineering Inter Disciplinaries (April 2020 – Today).
9. Journal of Advances in Applied & Computational Mathematics (March 2020 – Today).
10. Journal of Mineral, Metal and Material Engineering (March 2020 – Today).
11. International Journal of Architectural Engineering Technology (February 2020 – Today).
12. Journal of Computation and Artificial Intelligence in Mechanics and Biomechanics (February 2020 – Today).
13. African Journal of Engineering Science and Technology (February 2020 – Today).
14. General Chemistry (December 2019 – Today).
15. Materials International (November 2019 – Today).
16. Advanced Materials Science and Technology (October 2019 – Today).
17. Journal of Civil Engineering and Materials Application (September 2019 – Today).
18. Research and Application of Materials Science (September 2019 – Today).
19. International Journal of Recent Advances in Mechanical Engineering (September 2019 – Today).
20. Composite Materials and Engineering (April 2019 – Today).
21. Eureka: Physics and Engineering (April 2019 – Today).
22. Molecules (April 2019 – Today).
23. Nanomaterials (April 2019 – Today).
24. Emerging Science Journal (January 2019 – Today).
25. Composite Materials Research (January 2019 – Today).
26. Mechanics of Advanced Composite Structures (January 2019 – Today).
27. Science and Engineering of Composite Materials (December 2018 – Today).
28. Journal of Modern Mechanical Engineering and Technology (October 2018 – Today).
29. Open Engineering (October 2018 – Today).
30. International Journal of Engineering, Mathematics and Physics (September 2018 – Today).
31. Applied Sciences (August 2018 – Today).
32. Sci - Open Access Journal (August 2018 – Today).
33. ALKU Journal of Science (August 2018 – Today).
34. Eastern-European Journal of Enterprise Technologies (July 2018 – Today).
35. Modern Materials Science and Technology (June 2018 – Today).
36. Journal of Engineering (2017 – Today).
37. International Journal of Engineering and Applied Sciences (2017 – Today).
38. Composite Structures (2016 – Today).
39. Technologies (2016 – Today).
40. Journal of Applied and Computational Mechanics (2016 – Today).
41. Journal of Composites Science (2016 – Today).
42. Advanced Materials and Technologies (2015 – Today).

43. Heliyon (2014 – Today).
44. International Scholarly Research Notices (2014 – Today).
45. Mathematical Problems in Engineering (2014 – Today).
46. ISRN Mechanical Engineering (2013 – 2017).
47. Journal of Computational Engineering (2013 – 2017).
48. Advances in Aircraft and Spacecraft Science (2014 – 2016).

#### **2.4.5 Reviewer for International Journals**

1. Abstract and Applied Analysis
2. Acta Astronautica
3. Acta Mechanica
4. Acta Polytechnica
5. Active and Passive Electronic Components
6. Actuators
7. Advances in Acoustics and Vibration
8. Advances in Applied Mathematics and Mechanics
9. Advances in Civil Engineering
10. Advances in Computational Design
11. Advances in Engineering Software
12. Advances in Materials Science and Engineering
13. Advances in Mathematical Physics
14. Advances in Mechanical Engineering
15. Advances in Nano Research
16. Advances in Polymer Technology
17. Advances in Structural Engineering
18. Advances in Technology Innovation
19. Aerospace Science and Technology
20. Aerotecnica Missili e Spazio
21. AIAA Journal
22. Ain Shams Engineering Journal
23. AIP Advances
24. Aircraft Engineering and Aerospace Technology
25. American Journal of Analytical Chemistry
26. American Journal of Engineering and Applied Sciences
27. American Society of Agricultural and Biological Engineers
28. Annals of Solid and Structural Mechanics

29. Applied Acoustics
30. Applied and Computational Mechanics
31. Applied Mathematical Modelling
32. Applied Mathematics and Computation
33. Applied Mathematics and Mechanics
34. Applied Mathematics Letters
35. Applied Mechanics Reviews
36. Applied Physics A
37. Applied Polymer Science
38. Applied Science
39. Applied System Innovation
40. Archive of Applied Mechanics
41. Archive of Mechanical Engineering
42. Archives of Civil and Mechanical Engineering
43. Archives of Computational Methods in Engineering
44. Archives of Mechanics
45. Archives of Trauma Research
46. Asian Research Journal of Mathematics
47. Automatika
48. Batteries
49. Biomaterials and Biomedical Engineering
50. Biomechanics and Modeling in Mechanobiology
51. British Journal of Mathematics and Computer Science
52. Carbon Trends
53. Chaos Solitons and Fractals
54. Chinese Journal of Aeronautics
55. Ciência and Tecnologia dos Materiais
56. CMES
57. Coatings
58. Cogent Engineering
59. Communications in Nonlinear Science and Numerical Simulation
60. Composite Interfaces
61. Composite Materials and Engineering
62. Composite Structures
63. Composites Communications
64. Composites Part A

65. Composites Part B
66. Composites Science and Technology
67. Computational and Applied Mathematics
68. Computational and Mathematical Methods in Medicine
69. Computational and Nonlinear Dynamics
70. Computational Engineering and Physical Modeling
71. Computational Materials Science
72. Computational Methods in Engineering Science and Mechanics
73. Computers and Concrete
74. Computer and Structures
75. Computer and Mathematics with Applications
76. Computer Applications in Engineering Education
77. Computer Methods in Applied Mechanics and Engineering
78. Computer Modeling for Engineering and Sciences
79. Construction and Building Materials
80. Continuum Mechanics and Thermodynamics
81. Defence Technology
82. Dynamics and Vibroacoustics
83. Earthquake Engineering and Engineering Vibration
84. Earthquakes and Structures
85. Engineering Analysis with Boundary Elements
86. Engineering Applications of Computational Fluid Mechanics
87. Engineering Computations
88. Engineering Failure Analysis
89. Engineering Fracture Mechanics
90. Engineering Journals
91. Engineering Reports
92. Engineering Science and Technology
93. Engineering Structures
94. Engineering Structures and Materials
95. Engineering with Computers
96. Entropy
97. Environmental Engineering and Management Journal
98. European Journal of Mechanics A/Solids
99. European Journal of Pure and Applied Mathematics
100. Evolutionary Intelligence

101. Experimental Mechanics
102. Finite Elements in Analysis and Design
103. Frontiers in Built Environment
104. Frontiers of Mechanical Engineering
105. Geomechanics and Engineering
106. Geomechanics and Geoengineering
107. Heliyon
108. High Temperature Materials and Processes
109. Holzforschung - International Journal of the Biology, Chemistry, Physics and Technology of Wood
110. IEEE Access
111. IEEE Transactions on Systems, Man and Cybernetics
112. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control
113. Indian Journal of Engineering and Materials Sciences
114. Indian Journal of Physics
115. International Journal for Computational Methods in Engineering Science & Mechanics
116. International Journal for Multiscale Computational Engineering
117. International Journal for Numerical Methods in Engineering
118. International Journal of Acoustics and Vibration
119. International Journal of Advanced and Applied Sciences
120. International Journal of Advanced Structural Engineering
121. International Journal of Aeronautical and Space Sciences
122. International Journal of Aerospace Engineering
123. Journal of Advances in Applied & Computational Mathematics
124. International Journal of Applied Electromagnetics and Mechanics
125. International Journal of Applied Mechanics
126. International Journal of Computational Materials Science and Engineering
127. International Journal of Computational Methods
128. International Journal of Computer Integrated Manufacturing
129. International Journal of Damage Mechanics
130. International Journal of Differential Equations
131. International Journal of Educational Technology in Higher Education
132. International Journal of Engineering Science and Technology
133. International Journal of Mathematics and Mathematical Sciences
134. International Journal of Mechanical and Materials Engineering
135. International Journal of Mechanical Sciences
136. International Journal of Mechanics and Control

137. International Journal of Mechanics and Materials in Design
138. International Journal of Non-Linear Mechanics
139. International Journal of Pressure Vessels and Piping
140. International Journal of Recent Advances in Mechanical Engineering
141. International Journal of Rotating Machinery
142. International Journal of Smart and Nano Materials
143. International Journal of Solids and Structures
144. International Journal of Structural Stability and Dynamics
145. International Journal of Thermal Sciences
146. International Journal of Vehicle Noise and Vibration
147. International Review of Mechanical Engineering
148. Inverse Problems in Science and Engineering
149. Iranian Journal of Science and Technology Transactions A Science
150. Iranian Journal of Science and Technology Transactions of Mechanical Engineering
151. International Scholarly Research Notices
152. Journal of Aeronautics and Aerospace Engineering
153. Journal of Aerospace Engineering
154. Journal of Aircraft and Spacecraft Technology
155. Journal of Applied Analysis
156. Journal of Applied and Computational Mechanics
157. Journal of Applied Mechanical Engineering
158. Journal of Applied Mechanics
159. Journal of Bionic Engineering
160. Journal of Civil and Environmental Engineering
161. Journal of Composite Materials
162. Journal of Computational Acoustics
163. Journal of Computational and Applied Mathematics
164. Journal of Computational and Nonlinear Dynamics
165. Journal of Computational Engineering and Physical Modeling
166. Journal of Computational Design and Engineering
167. Journal of Computational Science
168. Journal of Constructional Steel Research
169. Journal of Control and Decision
170. Journal of Electromagnetic Waves and Applications
171. Journal of Engineering
172. Journal of Engineering and Applied Sciences

173. Journal of Engineering and Technological Sciences
174. Journal of Engineering Mathematics
175. Journal of Engineering Mechanics
176. Journal of Experimental and Theoretical Artificial Intelligence
177. Journal of Fluids and Structures
178. Journal of Function Spaces
179. Journal of Low Frequency Noise, Vibration & Active Control
180. Journal of Industrial Textiles
181. Journal of Intelligent Material Systems and Structures
182. Journal of Manufacturing Processes
183. Journal of Marine Science and Engineering
184. Journal of Materials
185. Journal of Materials Design and Applications
186. Journal of Mathematics
187. Journal of Mechanical Engineering Science
188. Journal of Mechanical Science and Technology
189. Journal of Mechanics
190. Journal of Mechanics of Materials and Structures
191. Journal of Ocean Engineering and Science
192. Journal of Physics and Chemistry of Solids
193. Journal of Polymer Engineering
194. Journal of Polymer Research
195. Journal of Sandwich Structures and Materials
196. Journal of Science and Technology
197. Journal of Shanghai Jiao Tong University (Science)
198. Journal of Solids Mechanics
199. Journal of Sound and Vibration
200. Journal of Statistics and Mathematical Sciences
201. Journal of Structures
202. Journal of Testing and Evaluation
203. Journal of Textile Science & Engineering
204. Journal of the Brazilian Society of Mechanical Sciences and Engineering
205. Journal of the Institution of Engineers (India) Series C
206. Journal of the Mechanical Behavior of Materials
207. Journal of Thermal Stress
208. Journal of Thermoplastic Composite Materials



209. Journal of Vibration and Acoustics
210. Journal of Vibration and Control
211. Journal of Zhejiang University Science A
212. Latin American Journal of Solids and Structures
213. Light: Advanced Manufacturing
214. Karbala International Journal of Modern Science
215. KSCE Journal of Civil Engineering
216. Material Science and Engineering Technology
217. Materials
218. Materials and Design
219. Materials and Structures
220. Materials Characterization
221. Materials Performance and Characterization
222. Materials Research
223. Materials Today Communications
224. Materials Science
225. Mathematical Biosciences and Engineering
226. Mathematical Methods in Applied Sciences
227. Mathematical Problems in Engineering
228. Mathematics
229. Measurement
230. Measurement Science Review
231. Meccanica
232. Mechanical Sciences
233. Mechanical Systems and Signal Processing
234. Mechanics Based Design of Structures and Machines
235. Mechanics of Advanced Composite Structures
236. Mechanics of Advanced Material and Structures
237. Mechanics of Materials
238. Mechanics Research Communications
239. Metals and Materials
240. Micro and Nano Letters
241. Micromachines
242. Microscopy Research and Technique
243. Microsystem Technologies
244. Modelling and Simulation in Engineering

245. Molecules
246. Multidiscipline Modeling in Materials and Structures
247. Nanomaterials
248. Nonlinear Dynamics
249. Nonlinear Engineering
250. Nonlinear Engineering. Modeling and Application
251. Numerical Algorithms
252. Ocean Engineering
253. Open Journal of Composite Materials
254. Optics and Lasers in Engineering
255. Periodica Polytechnica Mechanical Engineering
256. Physica E
257. Physica Scripta
258. Physica Status Solidi A: Applications and Materials Science
259. Plos One
260. Polymer Composites
261. Polymer Testing
262. Polymers
263. Probabilistic Engineering Mechanics
264. Procedia Engineering
265. Proceeding Review
266. Proceedings of the Royal Society A
267. Radiation Physics and Chemistry
268. Research on Engineering Structures and Materials
269. Results in Physics
270. Reviews on Advanced Materials Science
271. Royal Society Open Science
272. Sadhana - Academy Proceedings in Engineering Science
273. Science and Engineering of Composite Materials
274. Science Progress
275. Scientia Iranica
276. Scientific Reports
277. Scientific Research
278. Shock and Vibration
279. Simulation Modelling Practice and Theory
280. Smart Materials and Structures

281. Smart Structures and Systems  
282. Soils and Foundations  
283. Songklanakarin Journal of Science and Technology  
284. Springer Nature Applied Sciences  
285. Springer Plus  
286. Steel and Composite Structures  
287. Structural and Multidisciplinary Optimization  
288. Structural Engineering and Mechanics  
289. Sustainability  
290. Technical Sciences  
291. Technologies  
292. The Arabian Journal for Science and Engineering  
293. The European Physical Journal Plus  
294. The Open Civil Engineering Journal  
295. Theoretical and Applied Fracture Mechanics  
296. Theoretical and Applied Mechanics Letters  
297. Thermal Science and Engineering Progress  
298. Thin Solid Films  
299. Thin-Walled Structures  
300. Transactions of the Canadian Society for Mechanical Engineering  
301. Transactions on Industrial Electronics  
302. Wave Motion  
303. Waves in Random and Complex Media  
304. World Journal of Engineering  
305. ZAMM - Zeitschrift fuer Angewandte Mathematik und Mechanik

***Overall reviews done since 2009 up to Today***

- reviews 2009: 2
- reviews 2011: 1
- reviews 2012: 48
- reviews 2013: 81
- reviews 2014: 154
- reviews 2015: 149
- reviews 2016: 306
- reviews 2017: 319

- reviews 2018: 391
- reviews 2019: 427
- reviews 2020: 416
- reviews 2021: 501
- reviews 2022: 24 (up to date)

Overall reviews done: 2847

#### **2.4.6 Reviewer for Research Projects and VQR-ANVUR**

Reviewer for PRIN Projects - MIUR (2014 - Today).

Reviewer for VQR-ANVUR (VQR 2015-2019).

#### **2.4.7 Reviewer for International Book Proposals**

Reviewer for 4 Book Proposal for Wiley, Elsevier, IOP Science, World Scientific.

#### **2.4.8 Reviewer for PhD Theses**

Reviewer for PhD Theses:

1. N. Ahlawat, Some Problems on Vibration of Circular FGM Plates, Indian Institute of Technology Roorkee, 2016.
2. M. Biswal, Vibration, Buckling and Dynamic Stability of Laminated Composite Curved Panels in Hygrothermal Environment, National Institute of Technology Rourkela, 2016.
3. G. Imbalzano, Modelling and Experimental Study of Auxetic Sandwich Structures for Protection Against Impact and Blast Loadings, The University of Melbourne, 2018.
4. D. Belmonte, Model Based Correlation Methods for Faults Detection and Identification Algorithms on Electromechanical Actuators Used in Primary Flight Control Systems, Politecnico di Torino, 2019.
5. C. Ferro, Multidisciplinary Analysis of a Novel Anti-Icing System for a Fixed Wing UAV, Politecnico di Torino, 2019.
6. A. Urraci, Development of accurate and efficient structural models for analysis of multilayered and sandwich structures of industrial interest, Politecnico di Torino, 2019.
7. G. Nitti, Static, Dynamic, and Stability Analysis of High-rise Buildings, Politecnico di Torino, 2020.
8. R. Saini, Numerical Solution of Some Vibration Problems of FGM Circular Plates under Thermal Environment, Indian Institute of Technology Roorkee, 2020.
9. C. Dangi, Numerical Solution of Some Problems on Static and Dynamic Behaviour of FGM Nanostructures under Complicating Effects, Indian Institute of Technology Roorkee, 2021.
10. P.C. Berri, Design and Development of Algorithms and Technologies Applied to Prognostics of Aerospace Systems, Politecnico di Torino, 2021.

## 2.5 Partecipation to Research Projects

**Partecipation to the National Scientific Research Program (PRIN2007)** entitled: “Numerical Modelling of Ultrasonic Guided Wave in Composites Multilayered Bonded Structures”. Request of co-financing (DM n. 1175, 18 september 2007) Year 2007, Prot. 2007SZSZ7L\_002. Scientific Coordinator: Prof. Maiorana Carmelo. Manager of the Research Unit: Prof. Erasmo Viola.

**“SIR” Program, Order 23 January 2014 prot. N. 197. Protocol: RBSI144U0.** *Magneto-Piezo-Thermo-Elastic Composite Cracked Plate and Shell Models Applied to Aerospace, Naval, Civil and Mechanical Engineering Using a Higher-Order Unified Formulation.* Principal Investigator: Nicholas Fantuzzi, Alma Mater Studiorum University of Bologna. Permanent employees: Erasmo Viola, Francesco Tornabene, Alma Mater Studiorum University of Bologna. (Not Financed).

**Principal Investigator of the National Scientific Research Program (PRIN2015)** entitled: “3D Printing Manufacturing Technology for Advanced FGM and Composite Structures used in Aerospace, Civil and Mechanical Engineering: Numerical and Experimental Analyses”. Request of financing (DD n. 2488, 4 november 2015) Anno 2015, Prot. 2015ZTBH32. Coordinatore Scientifico: Prof. Francesco Tornabene. Manager of the Research Unit: Prof. Francesco Tornabene. (Not Financed).

**Principal Investigator and Beneficiary of FFABR2017 - ANVUR n. 20/2017, 15 June 2017.** Scientific Coordinator: Prof. Francesco Tornabene. Manager of the Research Unit: Prof. Francesco Tornabene.

**Principal Investigator of the National Scientific Research Program (PRIN2017)** entitled: *Mechanical properties and Experimental and Numerical analysis of doubly-curved free-form Structures manufactured by MEANS of 3D printed fused deposition modelling technology – byMEANSof3D*”. Request of financing (DD n. 3728, 27 December 2017) Year 2017, Prot. 2017YPYTER. Scientific Coordinator: Prof. Francesco Tornabene. Manager of the Research Unit: Prof. Francesco Tornabene. (Admitted but Not Financed).

## 2.6 Partecipation to Contracts and Agreements

**Agreement between Tacchificio Monti and University of Bologna.** Assistance to the rearrangement of the manufacturing proced with reference to the precautionary process, simulation of tests for the verification of the products and introduction of an ERP system for the correct management of the company resources.

## 2.7 Organizing Activities

### **Invited Charmian and Session Organizer**

1. ICMNMMCS2012, International Conference on Mechanics of Nano, Micro and Macro Composite Structures, 18-20 June 2012, Torino, Italy.  
<http://paginas.fe.up.pt/~icnmmcs/welcome.html>
2. ICCS17, 17th International Conference on Composite Structures, 17-21 June 2013, Porto, Portugal.  
<http://paginas.fe.up.pt/~iccs17>
3. AIMETA2013, XXI° Convegno Italiano dell'Associazione Italiana di Meccanica Teorica e Applicata, 17-20 September 2013, Torino, Italy.  
<http://www.aimeta.dicam.unibo.it/sites/www.aimeta.dicam.unibo.it/files/static/www.aimetatorino2013.it/it/default2c3f.html?PID=1>
4. MECHCOMP, 1st International Conference on Mechanics of Composites, 8-12 June 2014, Stony Brook, USA.  
<https://sites.google.com/site/mechcomp2014>
5. ICCM2017, 8th International Conference on Computational Methods, 25-29 July 2017, Guilin, Guangxi, China.  
<http://www.sci-en-tech.com/ICCM/index.php/iccm2017/2017>
6. ICCM2018, 9th International Conference on Computational Methods, 6-10 August 2018, Rome, Italy.  
<http://www.sci-en-tech.com/ICCM/index.php/iccm2018/2018>
7. ICoNSoM2019, International Conference on Nonlinear Solid Mechanics, 16-19 June 2019, Roma, Italy.  
<http://www.memocsevents.eu/iconsom2019>
8. WCCM2020, XIV World Congress on Computational Mechanics, 19-24 July 2020, Paris, France.  
<https://www.wccm-eccomas2020.org>

### **Scientific Committee Member**

9. CACMSIstanbul2015, 1st International Conference on Advances in Composite Materials and Structures, 13-15 April 2015, Istanbul, Turkey.  
<https://sites.google.com/site/cacmsistanbul2015>
10. CACMSSaoPaulo2016, 2nd International Conference on Advances in Composite Materials and Structures, 25-27 April 2016, São Paulo, Brazil.  
<https://sites.google.com/a/gcloud.fe.up.pt/compositessaopaulo2016>
11. ICCS18, 18th International Conference on Composite Structures, 15-19 June 2015, Lisbon, Portugal.  
<http://events.mercatura.pt/iccs18>
12. ICCS19, 19th International Conference on Composite Structures, 9-11 September 2016, Porto, Portugal.  
<http://events.mercatura.pt/iccs19>
13. SSTA2017, 11th International Conference on Shell Structures, Theory and Applications, 11-13 October 2017, Poland, Gdansk.  
<http://wilis.pg.edu.pl/ssta/welcome>

14. ICCMS2017, International Conference on Composite Materials and Structures, 27-29 December 2017, Hyderabad, India.  
<http://www.iccms2017hyd.com>
15. MECHCOMP4, 4th International Conference on Mechanics of Composites, 9-12 July 2018, Madrid, Spain.  
<https://sites.google.com/a/gcloud.fe.up.pt/mechcomp2018madrid>
16. ICTWS2018, International Conference on Thin Walled Structures, 24-27 July 2018, Lisbon, Portugal.  
<http://ictws2018.ist.utl.pt>
17. ICCM2018, 9th International Conference on Computational Methods, 6-10 August 2018, Rome, Italy.  
<http://www.sci-en-tech.com/ICCM/index.php/ICCM2018/ICCM2018>
18. SYMCOMP2019, 4th International Conference on Numerical and Symbolic Computation Developments and Applications, 11-12 April 2019, Porto, Portugal.  
<http://symcomp2019.dem.isel.pt/>
19. DSTA2019, 15th International Conference on “Dynamical Systems - Theory and Applications”, 2-5 December 2019, Lodz, Poland.  
<https://www.dys-ta.com/>
20. MECHCOMP5, 5th International Conference on Mechanics of Composites, 1-4 July 2019, Lisbon, Portugal.  
<http://mechcompconference2019.com/>
21. ICCS22, 22th International Conference on Composite Structures, 31 October - 3 November 2019, Wuhan, China.  
<http://www.conference-announcement.com/meeting.asp?cid=553&id=14>
22. ICCS23, 23th International Conference on Composite Structures, 15-18 June 2020, Porto, Portugal.  
<https://events.unibo.it/iccs23>
23. MDA2020, 3rd International Conference on Materials Design and Applications, 25-26 June 2020, Porto, Portugal.  
[www.fe.up.pt/mda2020](http://www.fe.up.pt/mda2020)
24. GCMSE2020, Global Conference on Materials Science & Engineering, 6-7 August 2020, San Antonio, USA.  
<https://www.pagesconferences.com/materialscience-engineering-congress>
25. NCM-MM-2020, 1st National Conference on Materials, Mechanics and Modelling, 29-30 August 2020, Jamshedpur, India.  
<https://sites.google.com/a/nitjsr.ac.in/ncmmm-2020/>
26. MECHCOMP6, 6th International Conference on Mechanics of Composites, 1-4 September 2020, Porto, Portugal.

27. LIMAS 2020, 3rd International Conference on Lightweight Materials & Engineering Structures, 22-23 October 2020, Glasgow, United Kingdom.  
<http://www.asranet.co.uk/Conferences/LIMAS2020>
28. MEC2020, 4th International Conference on Trends in Mechanical Engineering, 24-25 October 2020, Dubai, UAE.  
<https://csen2020.org/mec>
29. I-Gem 2021, 5th International Conference on Geoscience, Energy and Materials, 11-13 January 2021, Kuala Lumpur, Malaysia.  
<http://gem-conference.org/>
30. SYMCOMP2021, 5th International Conference on Numerical and Symbolic Computation Developments and Applications, 25-26 March 2021, Évora, Portugal.  
<http://symcomp2021.dem.isel.pt/>
31. MEC2021, 5th International Conference on Trends in Mechanical Engineering, 19-20 June 2021, Copenhagen, Denmark.  
<https://ccsea2021.org/mec>
32. ICCS24, 24th International Conference on Composite Structures, 5-8 July 2021, Madrid, Spain.  
<https://hello.last2ticket.com/event/2794>
33. MECHCOMP7, 7th International Conference on Mechanics of Composites, 7-10 September 2021, Lisbon, Portugal.  
<https://eventi.unibo.it/mechcomp7>
34. ICGSAME-2021, First International Conference on Geotechnical, Structural and Advanced Materials Engineering: From Research to Practic, 5-7 December 2021, University of Biskra, Algeria.
35. MDA2022, 4th International Conference on Materials Design and Applications, 7-8 July 2022, Porto, Portugal.  
[www.fe.up.pt/mda2020](http://www.fe.up.pt/mda2020)
36. GECAET-22, Global Experts Conference on Applied Science, Engineering and Technology, 23-25 June 2022, Amsterdam, Netherlands.  
<https://www.mscholarconferences.com/20/18/home.html>
37. ICoNSoM2022, 2nd International Conference on Nonlinear Solid Mechanics, 13-16 June 2022, Alghero, Italy.  
<http://www.memocsevents.eu/iconsom2022/>
38. GECSME-22, 2nd Global Experts Conference on Materials Science and Engineering, 16-18 June 2022, Rome, Italy.  
<https://www.mscholarconferences.com/GECSME2/7/home.html>

#### **Local Organizer**

39. ICCS19, 19th International Conference on Composite Structures, 9-11 September 2016, Porto, Portugal.



<http://events.mercatura.pt/iccs19>

40. ICCM2018, 9th International Conference on Computational Methods, 6-10 August 2018, Rome, Italy.  
<http://www.sci-en-tech.com/ICCM/index.php/iccm2018/2018>

#### **Co-Chair**

41. SPB2015, International Conference on Shells, Plates and Beams, 9-11 September 2015, Bologna, Italy.  
<http://www.spb2015.dicam.unibo.it>
42. MECHCOMP2, 2nd International Conference on Mechanics of Composites, 11-14 July 2016, Porto, Portugal.  
<http://events.mercatura.pt/MechComp2016>
43. MECHCOMP3, 3rd International Conference on Mechanics of Composites, 4-7 July 2017, Bologna, Italy.  
<https://events.unibo.it/mechcomp3>
44. ICCS20, 20th International Conference on Composite Structures, 4-7 September 2017, Paris, France.  
<https://events.unibo.it/iccs20>
45. ICCS21, 21th International Conference on Composite Structures, 4-7 September 2018, Bologna, Italy.  
<https://events.unibo.it/iccs21>
46. MSET22, Materials Science, Engineering & Technology, 10-12 August 2022, Paris, France.  
<https://msiconference.com/france-2022>

#### **Mini-Symposium Organizer**

47. *Computational Methods for Shell Structures* in AIMETA2013, XXI° Convegno Italiano dell'Associazione Italiana di Meccanica Teorica e Applicata, 17-20 September 2013, Torino, Italy.  
<http://www.aimeta.dicam.unibo.it/sites/www.aimeta.dicam.unibo.it/files/static/www.aimetatorino2013.it/it/default2c3f.html?PID=1>
48. *Advanced Computational Methods for the Mechanical Modeling of Materials and Structures* in ICCM2017, 8th International Conference on Computational Methods, 25-29 July 2017, Guilin, Guangxi, China.  
<http://www.sci-en-tech.com/ICCM/index.php/iccm2017/2017>
49. *Advanced Modelling of Composite Materials and Structures* in ICCM2018, 9th International Conference on Computational Methods, 6-10 August 2018, Rome, Italy.  
<http://www.sci-en-tech.com/ICCM/index.php/iccm2018/2018>
50. *Advanced Mechanical Modeling of Composite Materials and Structures* in ICoNSoM2019, International Conference on Nonlinear Solid Mechanics, 16-19 June 2019, Rome, Italy. [11 Presentations].  
<http://www.memocsevents.eu/iconsom2019>
51. *Advanced Modeling of Complex Materials and Structures* in WCCM2020, 14th World Congress in Computational Mechanics (WCCM XIV), 19-24 July 2020, Paris, France. [17 Presentations].  
<https://www.wccm-eccomas2020.org>

## Plenary Lectures

52. *Higher-order Formulations for the Mechanical Analysis of Doubly-Curved Shell Structures Made of Advanced and Innovative Materials* in 21th International Conference on Composite Structures, 4-7 September 2018, Bologna, Italy.

<https://events.unibo.it/iccs21>

## Webinars & Lectures

53. *Higher-order Strong and Weak Formulations for the Mechanical Modeling of Arbitrarily Shaped Doubly-Curved Shell Structures Made of Anisotropic and Advanced Materials* in "IAAM Scientists Fellow Lecture 2020" in the Advanced Materials Lecture Series, 30 July 2020, 11.00 AM CEST.

<https://zoom.us/j/99710219898?pwd=cEFEVXh1bTF0UlliT0hZN29ieFp0UT09>

54. *Advanced Mechanical Modeling of Nanomaterials and Nanostructures* (1st webinar) in the Nanomaterials Webinars 2020, 16 October 2020, 11.00 AM CEST.

<https://nanomaterials-1.sciforum.net/>

55. *Advanced Mechanical Modeling of Nanomaterials and Nanostructures* (2nd webinar) in the Nanomaterials Webinars 2020, 30 October 2020, 11.00 AM CEST.

<https://nanomaterials-2.sciforum.net/>

56. *Mechanics of Arbitrarily Shaped Doubly-Curved Shell Structures Made of Anisotropic and Advanced Materials Using Higher-order Strong and Weak Formulations* in Sabanci University Integrated Manufacturing Research and Application Center (SU-IMC) Integrated Manufacturing Webinar Series, 11 November 2020, 11.30 AM CEST.

<https://gazetesu.sabanciuniv.edu/en/society-and-science/su-imc-thematic-webinar-series-new-guest-francesco-tornabene>

## 2.8 Institutional Roles

- **Vice-President of Didactic Council of Civil Engineering** at Department of Innovation Engineering, University of Salento.
- Member of the **Group of Experts in Modeling and Simulation** at the University of Salento for GTI – Ministry of Defense (June 2020 – now).
- Member of the **Civil Engineering Review Group** at the University of Salento (June 2019 – now).
- Member of the **Evaluation Commission for Individual Preparation for Admission to the Master's Degree Course** in Civil Engineering at the University of Salento (December 2019, March 2019).
- Member of the **Internship Committee** for the Degree in Civil Engineering at the School of Engineering of the Alma Mater Studiorum - University of Bologna (2013 – 2018).
- Member of the **Admission Committee** at the School of Engineering of the Alma Mater Studiorum - University of Bologna (2012 – 2018).

- **Delegate** of the Degree in Civil Engineering for the **International Student Mobility** at the School of Engineering of the Alma Mater Studiorum - University of Bologna (2013 – 2018).

## 2.9 Professor Doctorate Boarding, Committee of Doctorate and Research Grant

- Member of the **Committee of Doctorate in Aerospace Engineering**, a.y. 2013/2014 (September 2014) at the Politecnico of Milano.
- Member of the **Committee for the evaluation of the candidates for a Research Grant** established by DICAM Department (December 2014) entitled: *Smart Manufacturing: Design of plastic container for Beverages*.
- Member of the **Committee of Doctorate in Science, Technologies and Space Measure XXVIII Cycle** (April 2016) at the University of Padova.
- Member of the **Committee of Doctorate in Structural Engineering XXVIII Cycle** (May 2016) at the Politecnico of Torino.
- Member of the **Committee of Doctorate in Aerospace Engineering XXXI Cycle** (Luglio 2019) at the Politecnico of Torino.
- Member of the **Professor Doctorate Boarding in Civil, Chemical, Environmental and Materials Engineering XXXIII Cycle** (April 2017), XXXIV Cycle (February 2018), XXXV Cycle (February 2019), XXXVI Cycle (March 2020) at the Alma Mater Studiorum - University of Bologna.
- Member of the **Professor Doctorate Boarding in Material, Structure and Nanotechnology Engineering XXXVII Cycle** (April 2021) at the University of Salento.

## 2.10 Bibliometric Indices

The research activity includes 198 papers published in prestigious international journal, with a great impact within the international scientific community. In a relative short lapse of time (2004-2022), indeed, the published papers have received more than 10571 citations included in more than 3472 papers published in international journals, whereby the h-index (= number of papers cited at least h times) of Prof. Francesco Tornabene is equal to 64 up to date.

Parameters / Source	Scopus Author ID: 6507489062	ISI Web of Knowledge ResearcherID: E-4789-2012	Google Scholar	ResearchGate
Documents	198	194	293	304
Total citations	10571	9777	12524	11135
h-index	64	60	69	64
h10-index	-	-	173	-

## ANVUR PARAMETERS 2012-2013

ANVUR Parameters	SCOPUS Database*		WOS Database*		Ref. Associate Professor	Ref. Full Professor	Ref. Commissioner
	2012	2013	2012	2013			
Paper in Journals last 10 years	27.78	40	30	36	11	12.5	12.5**
Normalized citations	30.78	66.51	30.63	57.89	6.14	8.96	216.5**
Contemporary H-index	12	22	12	18	5	5.5	9**

\* source: <http://mitel.dimi.uniud.it/varia/abilitanvur> ; \*\* not-normalized values

## ANVUR PARAMETERS 2013: SCOPUS DATA

ASN 2013 Indicators by Sapienza

### Italian Professorship Qualification

In order to check whether the author is (strictly) above the thresholds in at least 2 out of 3 indicators, please specify the Academic Position, the Academic Area (Settore Concorsuale) and whether you had a leave time (totale).

The Call defines this indicator as 'Number of Articles published in indexed Journals' (numero di articoli pubblicati su riviste indicizzate) published in the period 2003-2013 (included). Since the definition is somehow ambiguous 'Letter'. If you want to include more (or less) categories, please check only the categories you want to include.

Please select the Academic position:  Full professor,  Associate professor

Please select the categories for the first indicator or leave the default ones (2003-2013 documents covered):

Article (34),  Abstract Report (0),  Articles in Press (1),  Book (0),  Business Article (0),  Conf. Paper with ISSN (0),  Conf. Paper no ISSN (1),  Conf. Review (0),  Editorial (0),  Erratum (0),  Letter (0),  Note (0),  Press Release (0),  Report (0),  Review (1),  Short Survey (0)

Please select the Academic area: 08/B2 - STRUCTURAL MECHANICS

Before 2003: 0

	Number of normalized journal papers (includes articles, reviews and letters)	Number of normalized citations	Contemporary H-Index	MyList Summary	NEW SEARCH
My List	37	65.800	22	Candidate: <b>Francesco Tornabene</b>	
Selected area:	12.5	8.96	5.5	Documents selected: 40	
Outcome:	<b>Positive</b>			Total citations: 658	
				Total journal papers: 37	
				Academic age: 10.000 year/s	
				Working period 2003-2013: 10.0 year/s	

\*\* source: <http://www.scopus.com/authid/detail.url?authorId=6507489062> - Italian Professorship Qualification Application

## ANVUR PARAMETERS 2014-2016

ANVUR Parameters	SCOPUS Database*			WOS Database *			Ref. Associate Professor	Ref. Full Professor	Ref. Commissioner
	2014	2015	2016	2014	2015	2016			
Paper in Journals last 10 years	47	54	78	45	54	73	11	12.5	12.5**
Normalized citations	98.46	128.01	206.39	89.51	107.37	178.92	6.14	8.96	216.5**
Contemporary H-index	26	28	36	23	25	30	5	5.5	9**

\* source: <http://mitel.dimi.uniud.it/varia/abilitanvur> ; \*\* not-normalized values

## ANVUR INDICES 2016-2018

ANVUR Indices	Second class			First class			Ref. Associate Professor	Ref. Full Professor	Ref. Commissioner
	2016	2017	2018	2016	2017	2018			
First index	61	75	80	75	90	94	6	9	20
Second index	2668	3980	4347	2733	4061	4608	57	149	394
Third index	34	41	42	34	41	44	4	7	11

\* source: <http://abilitazione.miur.it/public/index.php>

## ANVUR INDICES 2018-2020 & 2021-2023

ANVUR Indices	Second class			First class			Ref. Associate Professor	Ref. Full Professor	Ref. Commissioner
	2019	2020	2021	2019	2020	2021			
First index	96	108	113	119	139	155	6	13	20
Second index	5967	6895	8512	6412	8475	10130	107	195	394
Third index	49	53	57	51	58	63	5	8	11

\* source: <http://abilitazione.miur.it/public/index.php>

## Databases e Research Scores

Scopus Profile: <https://www.scopus.com/authid/detail.uri?authorId=6507489062>

ISI Web of Knowledge Profile: <http://www.researcherid.com/rid/E-4789-2012>

Google Scholar Profile: <https://scholar.google.it/citations?user=1USOLEAAAAAJ&hl=it>

OrcID Profile: <http://orcid.org/0000-0002-5968-3382>

ResearchGate Profile: [https://www.researchgate.net/profile/Francesco\\_Tornabene](https://www.researchgate.net/profile/Francesco_Tornabene)

Publons Profile: <https://publons.com/author/1171215/francesco-tornabene#profile>

Accademia Profile: <https://unibo.academia.edu/FrancescoTornabene>

Mendely Profile: <https://www.mendeley.com/profiles/francesco-tornabene>

Loop Profile: <https://loop.frontiersin.org/people/515140/overview>

Kudos Profile: [https://www.growkudos.com/profile/francesco\\_tornabene](https://www.growkudos.com/profile/francesco_tornabene)

Sciprofiles: <https://sciprofiles.com/profile/francescotornabene>

## Top Italian Scientists List

Inserted in the Top Italian Scientists List: Engineering Area, position 31<sup>th</sup>.

[http://www.topitalianscientists.org/TIS\\_HTML/Top\\_Italian\\_Scientists\\_Engineering.htm](http://www.topitalianscientists.org/TIS_HTML/Top_Italian_Scientists_Engineering.htm)

## 100000 Top Scientists List (2019)

Inserted in the 100000 Top Scientists List: Ioannidis JPA, Baas J, Klavans R, Boyack KW (2019), A Standardized Citation Metrics Author Database Annotated for Scientific Field, PLoS Biol 17(8): e3000384.

<https://doi.org/10.1371/journal.pbio.3000384>

### Abstract

Citation metrics are widely used and misused. We have created a publicly available database of 100,000 top scientists that provides standardized information on citations, h-index, coauthorship-adjusted hm-index, citations to papers in different authorship positions, and a composite indicator. Separate data are shown for career-long and single-year impact. Metrics with and without self-citations and ratio of citations to citing papers are given. Scientists are classified into 22 scientific fields and 176 subfields. Field- and subfield-

specific percentiles are also provided for all scientists who have published at least five papers. Career-long data are updated to end of 2017 and to end of 2018 for comparison.

### **100000 Top Scientists List Update (2020)**

Inserted in the 100000 Top Scientists List: Ioannidis JPA, Boyack KW, Baas J (2020), Updated Science-Wide Author Databases of Standardized Citation Indicators, PLoS Biol 18(10): e3000918.

<https://doi.org/10.1371/journal.pbio.3000918>

### **100000 Top Scientists List Update (2021)**

Inserted in the 100000 Top Scientists List: Baas J, Boyack KW, Ioannidis JPA (2021), August 2021 data-update for “Updated Science-Wide Author Databases of Standardized Citation Indicators”, Mendeley Data, V3.

<https://doi.org/10.17632/btchxktzyw.3>



### **Highly Cited Researcher 2018**

Inserted in the 2018 Highly Cited Researchers List: This list recognizes world-class researchers selected for their exceptional research performance, demonstrated by production of multiple highly cited papers that rank in the top 1% by citations for field and year in Web of Science.

<https://clarivate.com/webofsciencegroup/solutions/researcher-recognition/>

<https://hcr.clarivate.com/wp-content/uploads/2018/12/HCR-2018-Final-12-06-18-Downloadable.xlsx>



### **Highly Cited Researcher 2019**

Inserted in the 2019 Highly Cited Researchers List: This list recognizes world-class researchers selected for their exceptional research performance, demonstrated by production of multiple highly cited papers that rank in the top 1% by citations for field and year in Web of Science.

<https://clarivate.com/webofsciencegroup/solutions/researcher-recognition/>

<https://recognition.webofscience.com/awards/highly-cited/2019/>

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## Highly Cited Researcher 2020

Inserted in the 2019 Highly Cited Researchers List: This list recognizes world-class researchers selected for their exceptional research performance, demonstrated by production of multiple highly cited papers that rank in the top 1% by citations for field and year in Web of Science.

<https://clarivate.com/webofsciencelibrary/solutions/researcher-recognition/>

<https://recognition.webofscience.com/awards/highly-cited/2019/>

## 3 TEACHING ACTIVITIES

### 3.1 Classes

The teaching activity includes different Classes (Bachelor and Master degrees) at the Faculty of Engineering at the University of Salento and the Alma Mater Studiorum - University of Bologna, together with a large teaching assistantship and thesis tutorship. The various classes belong to the School of Civil Engineering, Architecture and Building Engineering, Energy Engineering, Mechanical Engineering, Aerospace Engineering at the University of Salento and the Alma Mater Studiorum - University of Bologna.

#### Academic Year 2021-2022

- Lecturer for the class **Biomechanics** [SSD ICAR/08] (9 CFU) for the Degree in Biomedical Engineering at the Faculty of Engineering of the University of Salento.
- Lecturer for the class **Computational Mechanics** [SSD ICAR/08] (6 CFU) for the Master Degree in Civil Engineering at the Faculty of Engineering of the University of Salento.

#### Academic Year 2020-2021

- Lecturer for the class **Dynamics of Structures** [SSD ICAR/08] (6 CFU) for the Master Degree in Civil Engineering at the Faculty of Engineering of the University of Salento.
- Lecturer for the class **Computational Mechanics** [SSD ICAR/08] (6 CFU) for the Master Degree in Civil Engineering at the Faculty of Engineering of the University of Salento.

#### Academic Years 2018-2019 & 2019-2020

- Lecturer for the class **Structural Mechanics** [SSD ICAR/08] (9 CFU) for the Degree in Industrial Engineering (Curriculum: Aerospace) at the Faculty of Engineering of the University of Salento - Located in Brindisi.
- Lecturer for the class **Computational Mechanics** [SSD ICAR/08] (6 CFU) for the Master Degree in Civil Engineering at the Faculty of Engineering of the University of Salento.

#### Academic Years 2014-2015 & 2015-2016 & 2016-2017 & 2017-2018

- Lecturer for the class **Theory of Structures M** [SSD ICAR/08] (6 CFU) for the Degrees in Civil Engineering and Architecture and Building Engineering at the School of Engineering and Architecture of the Alma Mater Studiorum - University of Bologna.
- Lecturer for the class **Plates and Shells M** [SSD ICAR/08] (6 CFU) for the Degrees in Mechanical Engineering and Energy Engineering at the School of Engineering and Architecture of the Alma Mater Studiorum - University of Bologna.

#### **Academic Year 2013-2014**

- Lecturer for the class **Computational Mechanics M** [SSD ICAR/08] (6 CFU) for the Degrees in Civil Engineering at the School of Engineering and Architecture of the Alma Mater Studiorum - University of Bologna.

#### **Academic Years 2012-2013 & 2013-2014**

- Lecturer for the classes **Dynamics of Structures M** [SSD ICAR/08] (6 CFU) for the Degrees in Civil Engineering and **Dynamics of Structures with Laboratory** [SSD ICAR/08] (8 CFU) for the Degrees in Architecture and Building Engineering at the School of Engineering and Architecture of the Alma Mater Studiorum - University of Bologna.

**Teaching Assistantship** at the School of Engineering and Architecture of the Alma Mater Studiorum - University of Bologna, for the following courses:

- **Theory of Structures**, for the Degree in Civil Engineering (Teacher: Prof. Erasmo Viola) a.y. 2005/'06, 2006/'07, 2007/'08, 2012/'13, 2013/'14.
- **Plates and Shells M**, for the Degree in Mechanical Engineering (Teacher: Prof. Alessandro Marzani) a.y. 2012/'13
- **Numerical Methods for the Civil Engineering M**, for the Degree in Civil Engineering (Teacher: Prof. Fiorella Sgallari) a.y. 2011/'12.
- **Machine Design M**, for the Degree in Mechanical Engineering (Teacher: Prof. Francesco Cesari) a.y. 2011/'12.
- **Mechanical Design and Laboratory T C.I.**, for the Degree in Mechanical Engineering (Prof. Gianni Caligiana) a.y. 2010/'11.
- **Product Engineering M**, for the Degree in Mechanical Engineering (Teacher: Prof. Alfredo Liverani) a.y. 2010/'11.
- **Structural Mechanics II**, for the Degree in Civil Engineering (V.O.) (Teacher: Prof. Erasmo Viola) a.y. 2003/'04, 2004/'05, 2005/'06, 2006/'07 and 2007/'08.
- **Mechanics of Structure L**, for the Degree in Civil Engineering (Teacher: Prof. Erasmo Viola) a.y. 2004/'05, 2005/'06, 2006/'07 and 2007/'08.



- Structural Mechanics, for the Degree in Architecture and Building Engineering (Teacher: Prof. Erasmo Viola) a.y. 2005/'06, 2006/'07 and 2007/'08.
- Laboratory of Structural Mechanics, for the Degree in Architecture and Building Engineering (Teacher: Prof. Erasmo Viola) a.y. 2005/'06, 2006/'07 and 2007/'08.
- Structural Mechanics L, for the Degree in Civil Engineering (Teacher: Prof. Antonio Di Leo) a.y. 2005/'06 and 2007/'08.

### **Seminars in Doctorate Courses**

During the Doctorate Course of “Mechanics of Structures” at the Faculty of Engineering of the Alma Mater Studiorum - University of Bologna (XXV Cycle - May 2011), Prof. Francesco Tornabene discussed the following seminars:

- *Fundamentals and applications of the Differential Quadrature Method.*

During the Doctorate Course in “Aerospace Engineering” at the Politecnico of Torino, due to the invitation of Prof. Erasmo Carrera (May 2011), Prof. Francesco Tornabene discussed the following seminar:

- *2-D GDQ Solution for Anisotropic Doubly-Curved Shell and Panel Structures. Shear and Normal Stress Recovery via the GDQ Method.*

In the Albenga Room of the Department of Structural, Building and Geotechnical Engineering at the Politecnico of Torino, due to the invitation of Prof. Alberto Carpinteri (30 May 2018), Prof. Francesco Tornabene discussed the following seminar:

- *Structural Analysis of Doubly-Curved Shells Made of Innovative Constituents by Means of Higher-order Formulations.*

During the Doctorate Course in “Civil, Chemical, Environmental, and Materials Engineering” at the School of Engineering and Architecture of Alma Mater Studiorum - University of Bologna, Prof. Francesco Tornabene proposed as scientific representative the following seminars:

- *Strong Form Finite Elements: Formulation and Applications, given by eng. Nicholas Fantzzi (27 May 2015).*
- *Isogeometric Analysis: a CAD-FEM Integration for Interfacial Fracture and Contact Mechanics Problem, given by eng. Rossana Dimitri (24/11/2016).*
- *Finite Element Model for Buckling Analysis of Thin-Walled Beam-Type Structures, given by eng. Domagoj Lanc (13/12/2016).*
- *Higher-order Strong and Weak Formulations for Arbitrarily Shaped Doubly-Curved Shell Structures, given by eng. Michele Baccocchi (12 September 2018).*

### **3.2 Exam Committee**

- **Exam committee** from 2014 to 2018, president of the exam committee of *Theory of Structures*, for the Degree in Civil Engineering at the Faculty of Engineering of Alma Mater Studiorum - University of Bologna.
- **Exam committee** from 2014 to 2018, president of the exam committee of *Plates and Shells*, for the Degree in Mechanical Engineering and Energy Engineering at the Faculty of Engineering of Alma Mater Studiorum - University of Bologna.
- **Exam committee** from 2013 to 2014, president of the exam committee of *Dynamics of Structures*, for the Degree in Civil Engineering and Architecture and Building Engineering at the Faculty of Engineering of Alma Mater Studiorum - University of Bologna.
- **Exam committee** from 2013 to 2014, president of the exam committee of *Computational Mechanics*, for the Degree in Civil Engineering at the Faculty of Engineering of Alma Mater Studiorum - University of Bologna.
- **Exam committee** from 2012 to 2014, president of the exam committee of *Dynamics of Structures*, for the Degree in Civil Engineering and Architecture and Building Engineering at the Faculty of Engineering of Alma Mater Studiorum - University of Bologna.
- **Exam committee** from 2012 to 2014, member of the exam committee of *Structural Mechanics*, for the Degree in Architecture and Building Engineering at the Faculty of Engineering of Alma Mater Studiorum - University of Bologna.
- **Degree committee** from 2012 to 2018, member of the exam committee for the Degree and Master Degree in Civil Engineering, Architecture and Building Engineering and Civil Engineering at the Faculty of Engineering of Alma Mater Studiorum - University of Bologna.
- **Degree committee** from 2018 to now, member of the exam committee for the Degree and Master Degree in Civil Engineering at the University of Salento.

### 3.3 Advisor of PhD Theses and Scientific Advisor of Research Grants

Supervisor and Thesis Advisor of the following PhD Theses:

1. M. Bacciocchi (2018) - *Higher-Order Strong and Weak Formulations for Arbitrarily Shaped Doubly-Curved Shells Made of Advanced Materials*, PhD in “Civil, Chemical, Environmental, and MAterials Engineering”, XXX° Cycle, Alma Mater Studiorum University of Bologna.

Scientific advisor of the following Research Grant won by the candidate:

2. M. Bacciocchi (2017) - *Development of Numerical Methods based on the Strong and Weak Formulations of the Governing Equations for the Mechanical Behavior of Shell Structures Made of Innovative Materials*, Research Grant at the DICAM Department (“Civil, Chemical, Environmental, and MAterials Engineering”), Alma Mater Studiorum University of Bologna.

### 3.4 Co-Advisor of PhD Theses

Co-Advisor of the following PhD theses:

1. N. Fantuzzi (2013) - *Generalized Differential Quadrature Finite Element Method Applied to Advanced Structural Mechanics*, PhD in “Structural Engineering and Hydraulics”, XXV° Cycle, Alma Mater Studiorum University of Bologna.

### 3.5 Advisor of Theses

Advisor for the following theses:

1. M. Bacciocchi, *Teorie di Ordine Superiore per Strutture a Doppia Curvatura in Materiale Anisotropo*, Alma Mater Studiorum - University of Bologna, a.y. 2013/'14.
2. C. Delle Donne, *Elementi Finiti in Forma Forte: Applicazione a Problemi Piani*, Alma Mater Studiorum - University of Bologna, a.y. 2013/'14.
3. E. Galli, *Ottimizzazione del Processo Produttivo di Tacchi Mediante Modellazione Numerica*, Alma Mater Studiorum - University of Bologna, a.y. 2013/'14.
4. M.J. Bahrapour, *An Investigation on the Analysis of Laminated Composite Plates using the GDQ Method*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisor: Nicholas Fantuzzi, a.y. 2014/'15.
5. R. Sapienza, *Indagine Parametrica di Strutture a Guscio a Doppia e Singola Curvatura Realizzate con Materiali Innovativi*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisors: Michele Bacciocchi, Nicholas Fantuzzi, a.y. 2014/'15.
6. E. Cevenini, *Elementi Finiti in Forma Forte: Applicazione a Problemi Piani con Discontinuità e Materiali Compositi*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisor: Nicholas Fantuzzi, a.y. 2014/'15.
7. F. Casini (2016) - *Vibrazioni di Piastre in Materiale Composito con Elementi Finiti in Forma Forte*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisor: Nicholas Fantuzzi, a.y. 2015/'16.
8. L. Bonfiglioli (2016) - *Strutture a Guscio in Materiale Composito: Eccitazione Periodica e Sismica Applicata alla Base*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisors: Michele Bacciocchi, Nicholas Fantuzzi, a.y. 2015/'16.
9. G. Castellini (2017) - *Strutture Curve in Materiale Composito Soggette a un'Eccitazione Periodica e Sismica alla Base: Spostamenti e Azioni Interne*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisors: Michele Bacciocchi, Nicholas Fantuzzi, a.y. 2016/'17.
10. C. Manna (2017) - *Vibrazioni di Piastre di Forma Arbitraria con Elementi Finiti in Forma Forte: Convergenza, Stabilità e Accuratezza*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisors: Michele Bacciocchi, Nicholas Fantuzzi, a.y. 2016/'17.

11. M. Magliocchetti (2017) - *Analisi Statica e Dinamica di Strutture a Doppia Curvatura in Materiale Composito: Formulazione Forte e Debole con Teorie di Ordine Superiore*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisors: Michele Bacciocchi, Nicholas Fantuzzi, a.y. 2016/'17.
12. M. Lupidi (2017) - *Analisi Dinamica di Gusci Rotanti a Doppia e Singola Curvatura in Materiale Composito*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisor: Michele Bacciocchi, Nicholas Fantuzzi, a.y. 2017/'18.
13. G. Pirini (2017) - *Elementi Finiti in Forma Forte per lo Studio Statico di Strutture con Materiali Micropolari*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisors: Michele Bacciocchi, Nicholas Fantuzzi, a.y. 2017/'18.
14. F. Palese (2017) - *Modellazione Statica e Dinamica di Gusci in Materiale Composito Rinforzati da Fibre Curvilinee: Vibrazioni Libere, Profili di Tensione e Deformazione, Velocità Critiche di Rotazione*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisors: Michele Bacciocchi, Nicholas Fantuzzi, a.y. 2017/'18.
15. S. Cacchi (2018) - *Teorie di Ordine Superiore per l'Analisi Dinamica e Statica di Archi e Travi in Materiale Composito*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisor: Michele Bacciocchi, Nicholas Fantuzzi, a.y. 2017/'18.
16. M. De Luca (2018) - *Elementi Finiti in Forma Debole per l'Analisi Dinamica di Strutture di Forma Arbitraria in Materiale Composito*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisor: Michele Bacciocchi, Nicholas Fantuzzi, a.y. 2017/'18.
17. R. Bovicelli (2018) - *Flusso del Vento e Carichi sulle Strutture nello Strato Limite Atmosferico*, Alma Mater Studiorum - University of Bologna, Advisor: Prof. Francesco Tornabene, Co-advisor: Nicholas Fantuzzi, a.y. 2017/'18.
18. A. Nicolardi (2019) - *Grid Shells: Studio Numerico del Comportamento Strutturale di Gusci a Semplice e Doppia Curvatura*, University of Salento, Advisors: Prof. Francesco Tornabene and Prof. Rossana Dimitri, a.y. 2018/'19.
19. A. Notaro (2019) - *Studio Numerico dei Modi di Vibrare di Strutture Composite a Guscio Mediante Tecniche di Calcolo Avanzate*, University of Salento, Advisor: Prof. Francesco Tornabene and Prof. Rossana Dimitri, a.y. 2018/'19.
20. F. Chirulli (2020) - *Analisi Dinamica di Strutture a Guscio in Materiale Composito*, University of Salento, Advisors: Prof. Francesco Tornabene, a.y. 2019/'20.
21. M. Viscoti (2020) - *Dynamic analysis of curved sandwich panels: Higher Order Theories and Homogenization Modelling*, Advisors: Prof. Francesco Tornabene and Prof. Rossana Dimitri, a.y. 2019/'20.
22. E. Leo (2020) - *Studio Teorico-Numerico del Comportamento Meccanico di Serbatoi in Pressione*, University of Salento, Advisors: Prof. Francesco Tornabene and Prof. Rossana Dimitri, a.y. 2019/'20.

23. G. Maggiore (2021) - *Applicazione di Profili Pultrusi in Elementi Strutturali Sostenibili per L'Ingegneria Civile*, University of Salento, Advisors: Prof. Francesco Tornabene and Prof. Rossana Dimitri, a.y. 2019/'20.
24. M. Rinaldi (2021) - *Computational modeling based on FEM/XFEM of the 3D fracturing processes in anisotropic layered geomaterials*, Advisors: Prof. Francesco Tornabene, Co-Advisors: Prof. Rossana Dimitri, Prof. Corrado Fidelibus, Ing. Marco Trullo, a.y. 2019/'20.
25. K. Verholle (2021) - *Analisi statica e vibrazioni libere per pannelli sandwich con cuore realizzato mediante struttura lattice*, Advisors: Prof. Salvatore Brischetto and Prof. Francesco Tornabene, a.y. 2020/'21.

### 3.6 Co-Advisor of Theses

Co-Advisor of the following Theses:

1. I. Ancona, *Formulazione ed Applicazione del Metodo di Quadratura Differenziale Generalizzato*, Alma Mater Studiorum - University of Bologna, Supervisor: Prof. Erasmo Viola, a.y. 2002/'03.
2. S. Mercuri, *Sui Metodi di Identificazione Strutturale* Alma Mater Studiorum - University of Bologna, Supervisor: Prof. Erasmo Viola, a.y. 2003/'04.
3. M. Campidelli, *Modellazione di Carichi da Esplosione e Risposta Strutturale*, Alma Mater Studiorum - University of Bologna, Supervisor: Prof. Erasmo Viola, a.y. 2003/'04.
4. A. Benedetti, *Modellazione Analitica e Sperimentazione Numerica del Comportamento Dinamico di Elementi Strutturali*, Alma Mater Studiorum - University of Bologna, Supervisor: Prof. Erasmo Viola, a.y. 2003/'04.
5. A. Fusaro, *Sulla Disposizione Ottimale degli Smorzatori nelle Strutture*, Alma Mater Studiorum - University of Bologna, Supervisor: Prof. Erasmo Viola, a.y. 2003/'04.
6. M. Seraceni, *Storia e Teoria nelle Applicazioni ai Gusci Strutturali*, Alma Mater Studiorum - University of Bologna, Supervisor: Prof. Erasmo Viola, a.y. 2005/'06.
7. S. Mercuri, *Modellazione ed Applicazioni in Dinamica Strutturale*, Alma Mater Studiorum - University of Bologna, Supervisor: Erasmo Viola, a.y. 2005/'06.
8. F. Fanti, *Modellazione Analitica e Sperimentazione Numerica del Comportamento Statico e Dinamico di Gusci di Traslazione*, Alma Mater Studiorum - University of Bologna, Supervisor: Prof. Erasmo Viola, a.y. 2005/'06.
9. L. Lazzarini Barnabei, *Modellazione del Comportamento Dinamico di Strutture*, Alma Mater Studiorum - University of Bologna, Supervisor: Erasmo Viola, a.y. 2005/'06.
10. P. Pastore, *Modellazione Analitica e Sperimentazione Numerica di Gusci in Materiale Anisotropo*, Alma Mater Studiorum - University of Bologna, Supervisor: Erasmo Viola, a.y. 2005/'06.
11. I. Ricci, *Problemi Numerici in Dinamica delle Strutture*, Alm Mater Studiorum - University of Bologna, Supervisor: Erasmo Viola, a.y. 2005/'06.

12. N. Fantuzzi, *Sul Comportamento delle Volte Cilindriche*, Alma Mater Studiorum - University of Bologna, Supervisor: Erasmo Viola, a.y. 2005/'06.
13. C. Belmonte, *Modellazione del Comportamento di Materiali Piezoelettrici Fessurati*, Alma Mater Studiorum - University of Bologna, Supervisor: Erasmo Viola, a.y. 2005/'06.
14. F. Torrebruno, *Modellazione di telai piani su smorzatori viscoelastici*, Alma Mater Studiorum - University of Bologna, Supervisor: Erasmo Viola, a.y. 2005/'06.
15. M. Temprati, *Analisi Limite di Strutture in Muratura. Teoria e Applicazione all'Arco Trionfale*, Alma Mater Studiorum - University of Bologna, Supervisor: Prof. Erasmo Viola, a.y. 2006/'07.
16. G. De Vittorio, *Stabilità ed accuratezza del Metodo di Quadratura Differenziale nella risoluzione di problemi dinamici*, Alma Mater Studiorum - University of Bologna, Supervisor: Prof. Erasmo Viola, a.y. 2006/'07.

### 3.7 Tutor for Internships

Tutor of several Internships carried out by Civil Engineering Students at the School of Engineering of the Alma Mater Studiorum - University of Bologna.

### 3.8 Education

**September 2018 – Today:** Full-time **Assistant Professor** at Università del Salento.

**April 2012 – September 2018:** Full-time **Assistant Professor** at Alma Mater Studiorum - University of Bologna.

**May 2007:** Obtained the **PhD** in *Mechanics of Structures* at the Alma Mater Studiorum - University of Bologna.

**July 2003:** **Degree in Mechanical Engineering** at the Alma Mater Studiorum - University of Bologna.

**July 1997:** **High School degree (Maturità Classica)** at Liceo Classico "S. Luigi" in Bologna.

Lecce, 18 January 2022

Yours Sincerely,



Ph.D. Ing. Francesco Tornabene