Curriculum vitae di *Dario De Domenico*

Sottosettori ERC primari: *PE8_3 Civil engineering, architecture, offshore construction, lightweight construction, geotechnics*
Eventuali sottosettori ERC secondari: *PE8_7 Mechanical engineering*

PERSONAL DETAILS

Family name, First name: **De Domenico, Dario**
Birthdate: 3 April 1987
Researcher unique identifier(s): ORCiD: 0000-0003-1279-9529
URL for web site: https://scholar.google.com/citations?user=l2deByIAAAAJ&hl=it
https://unifind.unime.it/get/person/124694

- **Education and key qualifications**

28/04/2014 **PhD**
University Mediterranea of Reggio Calabria, Italy
PhD Supervisor: Prof. Paolo Fuschi, Prof. Aurora A. Pisano

2010 **Master of Science degree** in Civil Engineering
University of Messina, Italy

- **Current position(s)**

2020 – present **Assistant Professor** of Structural Engineering, responsible for courses of Structural Design and of Design of Earthquake Resistant Structures in the Department of Engineering, University of Messina, Italy

- **Previous position(s)**

2016 – 2020 **Research Fellow** of the C.E.R.I.S.I. (Centre of Excellence Research and Innovation of Large Dimensions Structures and Infrastructures), University of Messina, Italy

2016 - 2020 **Post-doctoral Researcher**
Department of Engineering / University of Messina / Italy

2017 **Visiting Researcher**
Laboratory of Mechanics and Materials, Aristotle University of Thessaloniki, Greece

2015 - 2016 **R&D – Project Engineer**
Soleco Engineering s.r.l., Milan, Italy

2014 - 2015 **Post-doctoral Researcher**
Department of Civil and Structural Engineering, University of Sheffield, UK

RESEARCH ACHIEVEMENTS AND PEER RECOGNITION

Research achievements

- Italian Scientific Habilitation ("Abilitazione Scientifica Nazionale") for the **qualification of Full Professor** in Structural Engineering in Italy (July 2025).
- **Research metrics** as per Scopus database: **164 items, 5436 citations, *h*-index 37** [ID: 54415516300]
- **Patent inventor** of "Vertical Isolation Device" – a seismic isolation mechanism acting in the vertical direction. Patent number 102018000004944, granted by the Italian Patent and Trademark Office on 14/05/2020.

- **Patent inventor** of "Hybrid Friction Rubber Isolator" – a seismic isolation mechanism acting in the horizontal direction. Patent number 102018000004948, granted by the Italian Patent and Trademark Office on 18/05/2020.

Dario's main research achievements are in the fields of:

- **Earthquake engineering** and seismic behavior of new and existing structures;
- Performance-based design and optimization of vibration control devices (seismic isolators, dampers, TMDs and inerter-based control systems) for wind- and earthquake-resistant structures;
- Development of innovative structural control systems and related design procedures.
- **Bridge engineering**: diagnostics, health monitoring and safety assessment of existing bridges.

Selected 10 recent publications in the field of structures equipped with seismic protection devices:

1. **De Domenico D.**, Gandelli E., Gioitta A. (2024). Displacement-based design procedure for the seismic retrofit of existing buildings with self-centering dissipative braces. Structures (Elsevier), vol. 62, pp. 106174, ISSN: 2352-0124, DOI: 10.1016/j.istruc.2024.106174.
2. **De Domenico D.**, Losanno D., Vaiana N. (2023). Experimental tests and numerical modeling of full-scale unbonded fiber reinforced elastomeric isolators (UFREIs) under bidirectional excitation. Engineering Structures (Elsevier), vol. 274, pp. 115118, DOI: 10.1016/j.engstruct.2022.115118.
3. **De Domenico D.**, Gandelli E., Quaglini V. (2020), *Adaptive isolation system combining low-friction sliding pendulum bearings and SMA-based gap dampers*, Engineering Structures (Elsevier), vol. 212, pp. 110536, DOI: 10.1016/j.engstruct.2020.110536.
4. **De Domenico D.**, Ricciardi G., Zhang R. (2020), *Optimal design and seismic performance of tuned fluid inerter applied to structures with friction pendulum isolators*, Soil Dynamics and Earthquake Engineering (Elsevier), vol. 132, pp. 106099, DOI: 10.1016/j.soildyn.2020.106099.
5. **De Domenico D.**, Ricciardi G., Takewaki I. (2019), *Design strategies of fluid viscous dampers for seismic protection of building structures: A review*, Soil Dynamics and Earthquake Engineering (Elsevier), vol. 118, pp. 144-165, DOI: 10.1016/j.soildyn.2018.12.024.
6. **De Domenico D.**, Deastra P., Ricciardi G., Sims NS., Wagg DJ. (2019), *Novel fluid inerter based tuned mass dampers for optimised structural control of base-isolated buildings*, Journal of The Franklin Institute (Elsevier), vol. 356, no. 14, pp. 7626-7649, DOI: 10.1016/j.jfranklin.2018.11.012.
7. **De Domenico D.**, Ricciardi G., Benzoni G. (2018), *Analytical and finite element investigation on the thermo-mechanical coupled response of friction isolators under bidirectional excitation*, Soil Dynamics and Earthquake Engineering (Elsevier), vol. 106, pp. 131-147, DOI: 10.1016/j.soildyn.2017.12.019.
8. **De Domenico D.**, Ricciardi G. (2018), *Earthquake-resilient design of base isolated buildings with TMD at basement: Application to a case study*, Soil Dynamics and Earthquake Engineering (Elsevier), vol. 113, pp. 503-521, DOI: 10.1016/j.soildyn.2018.06.022.
9. **De Domenico D.**, Ricciardi G. (2018), *Optimal design and seismic performance of tuned mass damper inerter (TMDI) for structures with nonlinear base isolation systems*, Earthquake Engineering and Structural Dynamics (Wiley Online Library), vol. 47, pp. 2539-2560, DOI: 10.1002/eqe.3098.
10. **De Domenico D.**, Ricciardi G. (2018), *An enhanced base isolation system equipped with optimal Tuned Mass Damper Inerter (TMDI)*, Earthquake Engineering and Structural Dynamics (Wiley), vol. 47, pp. 1169-1192, DOI: 10.1002/eqe.3011.

First author in all above-mentioned publications, and corresponding author of all listed articles.

Speaker in >30 international conferences. Invited to deliver keynote lectures and lectures as follows:

- **Invited keynote lecture** entitled "*Lightweight foamed concrete: Experimental findings on 3D-printable, fiber-reinforced and recycled variants of an innovative construction material*", presented in the "International Seminar on Advanced Materials and Green Buildings", College of Civil Engineering and Architecture from Southwest University of Science and Technology, online, 20 January 2022.
- **Invited lecture** entitled "*Earthquake protection of structures via seismic isolation: Current issues and innovative strategies*", presented in the "Department of Civil and Structural Engineering, University of Sheffield, UK", online, 29 October 2020.
- **Invited lecture** entitled: "*Innovative seismic isolation combined with inerter-based vibration absorbers*", presented in the "Virtual Workshop on Seismic Metamaterials", online, 9 October 2020.
- **Invited lecture** entitled: *Modelling wave dispersion in concrete and its implications in non-destructive testing techniques*, presented in the "Shechtman-Suresh Honorary Symposium", Thessaloniki, Greece, 30 November – 3 December 2018.

- **Invited lecture** entitled: *Novel aseismic design strategies optimized by energy-based stochastic performance criteria*, presented in the Workshop on Recent Advances in Mechanics, Dynamical Systems and Probability Theory WMDP 2018, Palermo, Italy, 5-6 March 2018.

Peer recognition

- Italian Scientific Habilitation ("Abilitazione Scientifica Nazionale") for the **qualification of Full Professor** in Structural Engineering in Italy (July 2025).
- Elected as "**Junior Member**" of the "Italian Academy of Engineering and Technology" (**Accademia di Ingegneria e Tecnologia – ITATEC**), on the proposal of the Presidency Council in consideration of the scientific merits relevant to the purposes of the Academia (July 2024).
- **Scientific Responsible** for the **Laboratory of Structural Engineering** at the Department of Engineering, University of Messina, Italy (May 2024).
- **Founder and Member** of the **Spin-off/Company** "Servizi Avanzati di Geomatica e Ingegneria Strutturale per grandi opere civili – **SAGIS srl**" created in the Department of Engineering of the University of Messina, Italy (August 2024).
- **Included in the list of the world's most influent researchers** (2% percentile) in the "Civil Engineering" field for citation impact from 2019-to date and for citation impact over the entire career from 2023-to date. Database available in Elsevier Data Repository at "Updated science-wide author databases of standardized citation indicators" published in https://doi.org/10.17632/btchxktzyw.6.
- "**Key Program for Talent Recruitment**" award, Tongji University, Shanghai, China, for distinguished researchers and overseas talents recruitment (2019).
- **Recognition for the paper** "*An enhanced base isolation system equipped with optimal tuned mass damper inerter (TMDI)*" as one of the top cited articles in the journal "Earthquake Engineering and Structural Dynamics" (Wiley) in 2018 and 2019.
- **Recognition for the paper** "*Optimal design and seismic performance of tuned mass damper inerter (TMDI) for structures with nonlinear base isolation systems*" as one of the top cited articles in the journal "Earthquake Engineering and Structural Dynamics" (Wiley) in 2018 and 2019.
- **Recognition for the paper** " *Design strategies of fluid viscous dampers for seismic protection of building structures: A review*" as one of the top cited articles in the journal "Soil Dynamics and Earthquake Engineering (Elsevier) in 2019 and 2020.
- **Honorable mention** in the *ACI (American Concrete Institute) Italy Chapter - Federbeton Award* **for the best Ph.D. thesis** defended in Italy during the period 2012-2014 in the domain of structural concrete and reinforced/pre-stressed concrete structures.
- **Associate Editor** of 6 referred journals in the area of structural engineering and seismic engineering.
- **Editorial Board Member** of >10 referred journals in the area of structural engineering and seismic engineering. **Reviewer** of >40 journals with impact factor.
- **Member of ASSISi** – Anti-Seismic Systems International Society.
- **Secretary of IADiMe**, International Association on Direct Methods. http://www.iadime.unirc.it/
- Selected as **Expert Reviewer** by the ANVUR for National Assessment of the Research Quality (VQR 2015-19) (September-December 2021). Reviewed n. 8 articles in the field of structural engineering.
- **Member of REPRISE** (Registered Expert Peer Reviewer for Italian Scientific Evaluation) for the subject "Fundamental research" (since May 2022).
- **Expert Reviewer** of the Czech Science Foundation, the main public funding agency in the Czech Republic (since July 2021).

ADDITIONAL INFORMATION

- 2017 – to date: Supervisor or co-supervisor of n. 7 PhD Students.
- 2017 – to date: Supervisor of >25 master students for the Civil Engineering course.
- 2015 – to date: Organized and chaired >15 mini-symposia and special sessions within international conferences in the field of structural engineering and seismic engineering.

Other contributions to the research community

- **Technical Responsible** for the scientific contract between the Department of Engineering of the University of Basilicata (DIST), Italy, and the Department of Engineering of the University of Messina,

Italy, for the activity: “experimental investigations on the support bearings extracted from existing bridge structurest” (January 2025).

- **Scientific Responsible** of the research unit of the University of Messina, partner of the team proposing the research project “ERIES-FREISUST: Fiber-Reinforced Elastomeric Isolators for seismic resilient structures with SUSTainable Solutions” supported by around 250 k€ within the Transnational Access Second Call of ERIES (Engineering Research Infrastructures for European Synergies)”, European Commission, 2022-2023.
- **Scientific Responsible** of Framework collaboration agreement established on 07/12/2022 between the University of Messina and the University of Beira Interior, Portugal.
- **Scientific Responsible** of the agreement for research activity entitled “Experimental testing of optimized steel plates with bolted connections” established on 16/05/2023 between the Department of Civil Engineering and Architecture – University of Beira Interior, Portugal, and the Department of Engineering – University of Messina, Italy.
- **Technical Responsible** for the scientific contract between the Department of Structures for Engineering and Architecture of the University of Naples Federico II (DIST) and the Center of Excellence Research and Innovation for Large Dimensions Structures and Infrastructures of the University of Messina (CERISI) for the activity: “Realization of experimental tests for the mechanical characterization of full-scale innovative elastomeric unbounded bearing prototypes with flexible reinforcement” (July 2020).