

CURRICULUM VITAE**Maria Pia Repetto****CURRENT POSITION**

From 2019 Maria Pia is Full Professor of Structural Engineering at the Department of Chemical, Civil and Environmental Engineering (DICCA), Università degli Studi di Genova (UniGe), Via Montallegro 1, 16145, Genova, Italy. Email: repetto@dicca.unige.it

EDUCATION AND TRAINING

2003 PhD degree in Structural and Geotechnical Engineering, Università degli Studi di Genova
 1998 Master of Science's degree with honors in Civil Engineering (Structural Section), Università degli Studi di Genova

INSTITUTIONAL OFFICES AND ROLES**Administrative role and position responsibility**

2024-2027 President of the Italian Association for Wind Engineering (ANIV)
 2022-to date Chair of the International Science Advisory Committee of the WindEEE Laboratory, University of Western Ontario, Canada
 2023-to date Coordinator of the Departmental Teaching Committee, DICCA, UniGe
 2021-2024 Member of the Departmental Steering Committee, DICCA, UniGe
 2016-2021 Coordinator of the Architectural Engineering MSc's Course, UniGe
 2020-to date Member of the Steering Committee of the Italian Institute of Welding (IIS)
 2011-2024 Member of the Academic Board of the PhD program in "Civil, Chemical and Environmental Engineering", DICCA, UniGe
 2019-2023 Coordinator of the PhD Curriculum "Structural and Geotechnical Engineering, Mechanics and Materials", PhD program DICCA, UniGe
 2012-2015 and 2018-2021 Member of the Departmental Executive Board, DICCA, UniGe
 2016-2018 Member of the Departmental Research committee, DICCA, UniGe
 2015-2016 Coordinator of the ISSUGE Curriculum "Engineering solutions for development of sustainable cities", UniGe
 2014-2019 Secretary-Treasurer of the Italian Association for Wind Engineering (ANIV)

Editorship of Journals and book series

2021-to date Member of Editorial Board of "Journal of Wind Engineering and Industrial Aerodynamics" (Elsevier)
 2019 Guest Editor of "Building Simulation" (Springer), Special Section on Urban comfort and Environmental Quality, Volume 12, Issue 2, pp. 157-194, April 2019, ISSN: 1996-8744
 2014 Guest Editor of "Journal of Wind Engineering and Industrial Aerodynamics" (Elsevier), Special Section on "13th Conference of the Italian Association for Wind Engineering (IN-VENTO 2014)" Vol. 147, December 2015, ISSN: 01676105; DOI: 10.1016/j.jweia.2015.11.003
 2012 Co-Editor of the book "Vento e Porti - La previsione del vento per la gestione e la sicurezza delle aree portuali / Vent et Ports - La prévision du vent pour la gestion et la sécurité des zones portuaires - ISBN 9788890124648

Chairmanship of Conferences and Schools

2021 International Workshop "New frontiers on thunderstorm outflows and their impact on structures", Genova, Oct 7-8, 2021
 2021 International Advanced School on "Thunderstorm outflows and their impact on structures", Genova, Oct 4-6, 2021

- 2021 Shipping 4.0 Round table “Ports and meteorological catastrophic events”, Genova, Feb 11-12, 2021
- 2017 International Conference on “Urban Comfort and Environmental Quality” (Urban-CEQ), Genova, Sep 28-29, 2017
- 2014 13th International Conference of the Italian Association for Wind Engineering (IN-VENTO 2014), Genova, June 22-25, 2014

SCIENTIFIC ACTIVITY

Research interests

The scientific activity primarily focuses on structural engineering and wind engineering problems, employing analytical, numerical and experimental approaches. Key achievements over the past decade includes probabilistic models of extreme wind speed for safety and fatigue assessment; simplified analytical procedures to assess wind-induced fatigue in structures for engineering applications; numerical simulation of wind in complex urban areas using Computational Fluid Dynamics (CFD) for safety and sustainability; advanced modelling of downburst winds and their effects on structures' dynamic response; continuous experimental high-resolution monitoring of real structures and dataset analysis.

Prizes and awards for scientific activities

- 2014 Raymond C. Reese Research Prize 2014, American Society of Civil Engineer (ASCE-SEI)
- 2011 IAWE Junior Award 2011, International Association for Wind Engineering (IAWE)
- 2008 Special mention ANIV Award 2008, Italian Association for Wind Engineering (ANIV)

Funded research projects

- 2022-2026 European Project ERIES “Engineering Research Infrastructures for European Synergies” financed by Horizon Europe HORIZON-INFRA-2021-SERV-01-07 grant (code 101058684). Total budget 11,6 M€; UniGe Budget 1,2 M€. Role: P.I. UniGE; member of the General Assembly; member of the Management Board. In the period 2022-2024 the following projects have been awarded from UniGe R.U. to external Transnational Access (TA) Users:
- ERIES-THRUST “The High Rotational Urban Savonius Turbine”. TA User P.I. K. Doerffer, Gdansk University of Technology, Poland
 - ERIES-WON1 “Winds on Vertiports 1”. TA User P.I. D. Milani, DMAirTech GmbH, Germany
 - ERIES-EOLICS “Experimental assessment of aerodynamic coefficients for the validation of reconstructed wind loads on antenna masts”. TA User P.I. G. Lombaert, KU Leuven, Belgium
 - ERIES-CRANES “Genoa Port microclimate study by WindCube 400S & airborne ultrasonic anemometer and wind-tunnel tests to drive CFD for wind loads on harbour cranes”. TA User P.I. J. van Beck, von Karman Institute for Fluid Dynamics, Belgium
 - ERIES-TLTB “Thunderstorm loading on tall buildings”. TA User P.I. A. Bagnara, NOVA Fluid Mechanics Ltd, UK
 - ERIES-SSTURBBO “Effects of Small-Scale TURbulence on the aerodynamic and aeroelastic responses of Bluff BODies. Exploratory study of an upstream rod as a mitigative device”. TA User P.I. F. Nieto Mouronte, University of A Coruña, Spain
 - ERIES-DisDeck “Flutter Mitigation with Distortionable Bridge Decks”. TA User P.I. C. Lazaro, Universitat Politècnica de València, Spain
- 2023-2025 National project CROSS-STORM “Crosswind stability of road vehicles under thunderstorms”, financed by PRIN2022 (cod. 202284ZER9), UniGe Budget 126,6 K€. Role: P.I. UniGe.
- 2022-2025 Innovation Ecosystem RAISE “Robotics and AI for Socio-economic

- Empowerment”, Spoke 4 “Smart and sustainable Ports”, financed by PNRR. Total budget 109,9 M€, UniGE budget 19 M€. Role: member of UniGE R.U.
- 2017-2021 European Project THUNDERR "Detection, simulation, modelling and loading of thunderstorm outflows to design wind-safer and cost-efficient structures" financed by European Research Council (ERC), Advanced Grant 2016 (code 741273, P.I. Prof. G. Solari, University of Genova). Role: member of Unige R.U. (2017-2020); project responsible (2020-2021).
- 2009-2016 European projects Wind and Ports: “The forecast of wind for the management and the safety of port areas” (2009-2012) and Wind, Ports and Sea “Monitoring and forecasting of weather and sea conditions for safe access to port areas” (2010-2013), financed by the European Territorial Cooperation Objective, Cross-border program Italy-France Maritime. UniGe budget 1,2 M€. Role: member of the Advisory Board and responsible of the WebGis Meteorological System development.

Technology Transfer

- 2023-to date Member of the working group of the National Council of Italian Engineers (CNI) on the Messina Strait Bridge
- 2022-2023 Scientific responsibility of project “Characterization of the seismic response of steel towers arranged in group and development of anti-seismic foundation systems”, Siemens Gamesa Renewable Energy, DK.
- 2013-to date Scientific responsibility of research projects ruled through partnership agreements with companies and/or public private bodies, for a total amount of 550 k€.
- 2014-2019 Member of the C.N.R. Working Group with the task of preparing a technical document concerning the wind actions on structures; CNR-DT 207 R1/2018 "Guidelines for the assessment of wind loads and effects on structures" (2014-2019, released on February 6th, 2019)

Invited lectures

- 2022 “Risk assessment and resilience of SeaPort infrastructures under extreme winds”, 8th European-African Conference on Wind Engineering (EACWE2022), Bucharest (Romania)
- 2022 “Wind storms – what can we measure on the field?”, 2nd ANIV-WES Joint Web Event, Wind Storm Events: Their challenges and effects on structures.
- 2021 “The effect of thunderstorm extreme winds on lightweight structures”, XXVII Conference of Lightweight Structures in Civil Engineering (LSCE 2021), Lods (Poland)
- 2021 “Genova e l’energia: la centrale termoelettrica del porto – La Struttura”, Workshop “Memoria identitaria tra conservazione e riuso” – AIPAI and Fondazione Ducale, Genova
- 2020 “Structural/infrastructural field monitoring of wind and wind-wave induced response”, MsRI-EW Meeting: Conference to identify research infrastructure concepts for a national full-scale 200 mph wind and wind-water testing facility, Florida International University (USA)
- 2016 “Wind-induced fatigue on steel structures”, National Conference of Association of Industrial Plant– Construction section (ANIMP 2016), Milan (Italy)
- 2014 “Fatigue analysis of slender structures under turbulent wind actions”, International Colloquium on Lightweight Structures in Civil Engineering (LSCE 2014), Warsaw (Poland)
- 2014 “Wind-induced fatigue”, Technical Meeting of the Wind Engineering Society (WES) London (UK)
- 2013 “The wind monitoring and forecast systems for risk assessment of complex areas”, International Workshop on “Wind disaster problems - challenges ahead”, Royal School of Engineering & Technology, Guwahati (India)
- 2013 “Wind engineering: a multidisciplinary science”, International Workshop on “Wind engineering prospects and challenges”, Assam Engineering College, Guwahati (India)

5 recent publications

- Torrielli A., Giusti A., Brusco S., Repetto M.P. (2024). The contribution of higher order modes in the dynamic response of slender vertical structures with application to wind turbine towers. *Engineering Structures*, 308, 117886
- Mengistu M.T., Repetto M.P. (2023). Dynamic response of a slender structure to thunderstorm outflow excitation through numerical analysis and full-scale monitoring. *Journal of Wind Engineering and Industrial Aerodynamics*, 242, 105556
- Ricci A., Burlando M., Repetto M.P., Blocken B. (2022). Static downscaling of mesoscale wind conditions into an urban canopy layer by a CFD microscale model. *Building and Environment*, 225, 109626
- Orlando A., Pagnini L., Repetto M.P. (2021). Structural response and fatigue assessment of a small vertical axis wind turbine under stationary and non-stationary excitation. *Renewable Energy*, 170, 251 - 266
- Solari G., Burlando M., Repetto M.P. (2020). Detection, simulation, modelling and loading of thunderstorm outflows to design wind-safer and cost-efficient structures. *Journal of Wind Engineering and Industrial Aerodynamics*, 200, 104142

Complete records at
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Prof. Maria Pia Repetto