MSCA Postdoctoral Fellow
Department of Structural, Geotechnical and Building Engineering (DISEG)
Politecnico di Torino

Corso Duca degli Abruzzi, 24
10129 Torino, Italy
predaricka.deastra@polito.it
Tel. +39 351 4093 062.

PERSONAL INFORMATION

Name: Predaricka Deastra Date of birth: 22.08.1991 Nationality: Indonesian

Website: https://predaricka.github.io/
Google Scholar: https://scholar.google.com/citations?user=ms_rPKkAAAAJ&hl=en
ORCID: https://orcid.org/0000-0002-1709-4686
LinkedIn: https://www.linkedin.com/in/predarickadeastra/

PROFILE

Structural Dynamics specialist with combined academic and industrial experience, and recipient of three globally prestigious research fellowships: the Marie Skłodowska-Curie Actions (MSCA, ~12% acceptance), the JSPS Fellowship (Japan, ~10%), and the Swiss Government Excellence Scholarship (SGES). Proven track record in securing competitive research funding of total more than £250,000, producing peer-reviewed publications, and leading international collaborations across Europe and Asia. Research interests include structural dynamics, vibration control (passive, semi-active and active), soil–structure interaction, finite element analysis, and the integration of artificial intelligence in vibration engineering.

EDUCATION

09/2016 – 09/2021 **Doctor of Philosophy (Ph.D.)** in Structural Dynamics
Department of Mechanical Engineering, The University of Sheffield, UK
Ph.D Thesis: *"Tuned Inerter Based Dampers with Linear Hysteretic Damping for Earthquake Protection of Building Structures".*
Supervisors: Prof. David J Wagg and Prof. Neil D Sims.

09/2014 – 11/2015 **Master of Science (M.Sc.)** in Structural Engineering
School of Mechanical, Aerospace and Civil Engineering, The University of Manchester, UK
M.Sc Dissertation: *"Numerical Analysis of Rocker Bearing Seismic Isolation".*

08/2009 – 02/2013 **Bachelor of Engineering (B.Eng.)** in Civil Engineering
Department of Civil Engineering, University of Andalas, Indonesia
B.Eng. Final project: *"Seismic performance of a hospital building equipped with base isolation".*

CURRENT AND PAST POSTDOCTORAL POSITIONS

05/2025 – **Politecnico di Torino (Italy),** Department of Structural, Geotech. and Build. Engineering (DISEG).
Leading the project *VIBRATIONCLEAR*: Inerter-based vibrating barrier for seismic protection of a cluster of building structures.

09/2023 – 04/2025 **Tohoku University (Japan),** International Research Institute of Disaster Science (IRIDeS).
Leading the project: Design strategy for an inerter-based structural control system considering non-linearity.

12/2022 – 08/2023 **ETH Zurich (Switzerland),** Institute of Structural Engineering (IBK).

05/2022 – 11/2022 **Dong-A University (South Korea),** ERC for ICT Integrated Safe Ocean Smart Cities.

INDUSTRIAL EXPERIENCE

11/2015 – 8/2016 **Structural Engineer** at PT LAPI Ganeshatama Consulting, Bandung, Indonesia

- Contributed to the structural design and analysis of various infrastructure projects: Segmental pre-stressed reinforced concrete bridges; Box culverts; Cable stayed bridge; using commercial software: SAP2000 and MIDAS Civil.
- Collaborated with multidisciplinary teams to deliver engineering solutions aligned with national and international standards (SNI, ASCE and AASHTO codes).
- Coordinated with stakeholders, including clients, contractors, and government agencies, to ensure that designs met technical specifications, project timelines, and regulatory requirements.

TEACHING EXPERIENCE

09/2021 – 08/2022 **Sessional Lecturer** at Islamic University of Indonesia (UII), Department of Civil Engineering and Planning.

- Delivered undergraduate courses in Structural Engineering: Statics and Dynamics; Numerical Methods; Mechanics of Materials; Earthquake Engineering.
- Assisted in the curriculum development.

02/2021 – 09/2021 **Sessional Lecturer** at Sumatra Institute of Technology (ITERA), Faculty of Infrastructure Technology and Regional Planning.

- Delivered undergraduate courses in Structural Engineering: Advanced Structural Analysis; Research Methods; Earthquake Engineering; Finite Elements Method.
- Served as Secretary to the Head of Department, supporting academic administration, scheduling, and departmental coordination.

02/2018 – 11/2020 **Graduate Teaching Assistant** at The University of Sheffield,
Faculty of Engineering, Multidisciplinary Engineering Education (MEE) at The Diamond.

- Delivered lab sessions and tutorials for both undergraduate and master's students.
- Provided academic support, supervised experiments, and gave feedback on coursework and projects in structural dynamics, mechanics, and computational analysis.

FUNDING AWARDED

05/2025 – 04/2027 Marie Skłodowska-Curie Actions (MSCA) Postdoctoral Fellowship, EUR 188,590.
09/2023 – 04/2025 Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellowship, JPY 12,968,000 (EUR 78,739).
12/2022 – 08/2023 Swiss Government Excellence Scholarship, CHF 31,800 (EUR 32,844).

AWARDS

04/2022 Top cited article in 2020-2021 in Earthquake Engineering and Structural Dynamics, Wiley.
10/2020 The best presenter at the 2nd International Conference on Disaster Management (ICDM 2020) held in Padang, Indonesia.
02/2013 Best graduating student with the highest GPA at Faculty of Engineering, University of Andalas, Indonesia.

PROFESSIONAL SOCIETY MEMBERSHIP AND CERTIFICATION

04/2024 – 12/2024 **Member**, European Association for Earthquake Engineering (EAEE)
04/2024 – 12/2024 **Member**, Society for Earthquake and Civil Engineering Dynamics (SECED)
04/2024 – 04/2025 **Member**, Anti-Seismic Systems International Society (ASSISI)
03/2024 – 03/2025 **Member**, Architectural Institute of Japan (AIJ)
08/2019 **Associate Fellow of The Higher Education Academy (AFHEA)**, a recognition of attainment against the UK professional standards framework for teaching and learning support in higher education. Recognition reference: PR172395.

TRAINING & SUMMER SCHOOL (as a participant)

18-20 Sep 2025 Artificial Intelligence in Structural Engineering – a Summer School organized by the ML Academy as part of the ARTISTE 2025 at Politecnico di Torino, Italy.

- Course coverage: Machine Learning, Python programming, Gaussian Process, Neural Networks, Advanced Neural Networks (CNNs, RNNs), Computational Intelligence, Evolutionary computation and swarm intelligence.

12-13 Jun 2025 ERC Starting Grant – a webinar by Yellow Research, Netherland.

INVITED TALK

"Passive vibration controls for buildings"
Webinar, Bandung Institute of Science and Technology, Online, 5 December 2023.

RESEARCH TRACK RECORD

Google Scholar h-index: 7 citations: 361
Scopus h-index: 6 citations: 292
Selected publications:

- **Deastra, P.,** Dogan, H., Xie, R., Ikago, K. (2025). Shake table experimental validation of auxiliary mass effects in a tuned viscous mass damper. Structures. 80 pp. 109681. DOI 10.1016/j.istruc.2025.109681
- **Deastra, P.,** Wagg, D.J., Sims, N.D., Mills, R.S. (2023). Experimental shake table validation of damping behaviour in inerter-based dampers. Bulletin of Earthquake Engineering. 21 pp. 1389-1409. DOI 10.1007/s10518-022-01376-1
- **Deastra, P.**, Wagg, D.J., Sims, N.D., Akbar, M. (2020). Tuned inerter dampers with linear hysteretic damping. Earthquake Engineering and Structural Dynamics. 49(12) pp. 1216-1235. – **Top cited articles in 2020-2021.** DOI 10.1002/eqe.3287
- Dario De Domenico, **Predaricka Deastra**, Giuseppe Ricciardi, Neil D. Sims, David J. Wagg (2019). Novel fluid inerter based tuned mass dampers for optimised structural control of base-isolated buildings. Journal of The Franklin Institute. 356(14) pp. 7626-7649. – **The most cited article (top 10) published since 2019**. DOI 10.1016/j.jfranklin.2018.11.012
- **Deastra, P.**, Wagg, D.J., Sims, N.D. (2019). The Realisation of an Inerter-Based-System Using Fluid Inerter, In: Pakzad, S. (eds) Dynamics of Civil Structures. 2 pp.127-134. Conference Proceedings of the Society for Experimental Mechanics Series. Springer, Cham. DOI 10.1007/978-3-319-74421-6_16

Full list available at https://scholar.google.com/citations?user=ms_rPKkAAAAJ&hl=en