



A.D. 1308

unipg

DIPARTIMENTO
DI INGEGNERIA
CIVILE E AMBIENTALE

International Doctoral Program in Civil and Environmental Engineering

SEMINAR

Three decades of Structural Health Monitoring in Bridges: Achievements, Grand Challenges, and Future Trends

Prof. Eloi Figueiredo

Full Professor, Lusófona University, Portugal

Timetable:March 27th 2026 – 10:30 a.m. (CET)**Location:**Room 16 and [MS Teams](#)
UniPG Campus of Engineering
Via G. Duranti, 93, Perugia

In the last three decades, structural health monitoring (SHM) has been a promising tool in management activities of bridges. The general idea has been the transformation of massive data obtained from monitoring systems and numerical models into meaningful information. To deal with large amounts of data and perform the damage identification automatically, SHM has been cast in the context of a statistical pattern recognition (SPR) paradigm, where machine learning plays an important role. The main goal of this presentation is to point out key achievements in research and applications of the SPR paradigm over three decades, including recent developments in stochastic finite element modeling, smartphone sensing, transfer learning, and the impact of climate change on SHM. It will also give an overview of the grand challenges and future trends.



Eloi Figueiredo holds a PhD in Civil Engineering (2010) and is Full Professor at the Faculty of Engineering at Lusófona University in Lisbon. He has dedicated his academic career teaching structural engineering courses and conducting scientific research in structural health monitoring (SHM) and climate change adaptation of transport infrastructure. He has been actively involved in the organization of courses on SHM, fostering knowledge exchange and training of researchers and practitioners. He currently has over 125 scientific publications, including books, book chapters, peer-reviewed journal articles, and conference proceedings. He has also authored more than 120 opinion articles aimed at promoting science and engineering in society. For more information: <https://www.eloifigueiredo.pt/>.

For more info Mrs. Teresa Nocera, Ph.D. Program Secretariat (teresa.nocera@unipg.it)
Prof. Dr. Silvia Meniconi, Ph. D. Program Coordinator (silvia.meniconi@unipg.it)

