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CIVIL AND ENVIRONMENTAL ENGINEERING

DOCTORAL PROGRAM 2023-2024

Dr. Laura Ierimonti is a a highly accomplished post-doc researcher at the Department of Civil and Environmental Engineering of University of Perugia where she practices didactic support in Structural and seismic design, Bridge Engineering and Construction Rehabilitation. She was visiting scholar at TU Braunschweig in 2015 and 2017 and at Northeastern University (Boston) in 2016.

Author of 39 papers published in high impact international journals and in international conferences proceeding, her research is mainly focused on Bayesian-based model updating for structural health monitoring with applications to earthquake engineering and heritage structures and life-cycle cost-based analysis. As a member of the UNIPG working group within the FABRE consortium, Dr. Ierimonti is involved in the evaluation and monitoring of bridges, viaducts, and other structures. Dr. Ierimonti has received several accolades for her work, including awards from the University of Perugia for her master's thesis and the best paper award at IOMAC 2019.

PROBABILITY THEORY, UNCERTAINTY QUANTIFICATION AND BAYESIAN-BASED METHODS FOR DATA ANALYSIS: BASIC CONCEPTS AND APPLICATIONS

Instructor
Laura Ierimonti
Researcher at the Department of Civil and Environmental Engineering
University of Perugia

MODULE 1

Course Description

The course focuses on the use of probabilistic methods and techniques to analyze complex systems and problems. The course covers topics such as probability theory, statistical methods, random processes, and uncertainty quantification, as well as their applications in various fields. The main topics covered by the course will be definitions of probability, random variables, conditional distributions, random vectors, discrete and continuous probability distributions, Bayesian inference, Bayesian model updating, Bayesian computational tools, data sampling. In addition, the course will include classroom exercises using Matlab to provide hands-on learning opportunities for students.lla pariatur.

Location
Campus of Engineering of University of Perugia
Via G. Duranti, 93 - Perugia

Room
AULA 9

Virtual Room
https://urly.it/3ydd9

Course Schedule
Day 1, December 19th: 09:00-13:00
Day 2, December 20th: 09:00-13:00
Day 3, January 12th: 09:00-13:00
Day 4, January 19th: 10:00-13:00
Day 5, January 26th: 10:00-13:00

For more info Mrs. Teresa Nocera, Ph.D. Program Secretariat (teresa.nocera@unipg.it)
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