



UNIVERSITÀ DEGLI STUDI
DI PERUGIA



CIVIL AND ENVIRONMENTAL ENGINEERING DOCTORAL PROGRAM



Ilaria Venanzi is currently Associate Professor at the Department of Civil and Environmental Engineering of University of Perugia. She received her Ph.D. in Civil Engineering in 2006 and she was post-doc and assistant Professor at University of Perugia. She has been visiting researcher at the Columbia University in New York for 6 months in 2004 - 2005. Dr. Venanzi has developed international scientific collaborations with several institutions among which the NIST at Washington D.C., the Technion, Israel Institute of Technology, the Northeastern

University in Boston. Dr. Venanzi has taught several courses of structural design and she has conducted research in Structural Health Monitoring, wind engineering, structural control, structural optimization, performance-based design and computational mechanics and has published extensively in the area of structural engineering and mechanics.

Location: Campus of Engineering of University of Perugia
Latitude: 43.118177 Longitude: 12.357942

Timetable: January 7-8-10, 9:00 a.m. – 1:00 p.m.,
Aula 13

PROBABILITY THEORY, STOCHASTIC PROCESSES AND RELIABILITY

MODULE 1

FUNDAMENTALS OF PROBABILITY THEORY WITH APPLICATIONS TO ENGINEERING PROBLEMS

Instructor: Ilaria Venanzi, Ph.D., Associate Professor,
University of Perugia

Course Description: The course is aimed at providing the basis of statistical analysis and probability theory. The main topics covered by the course are: statistical methods and tools for data analysis; statistical hypothesis testing; definitions of probability; random variables; probability distributions; conditional distributions; random vectors; Monte-Carlo method and data sampling. Classroom exercises using Matlab are proposed, relative to applications of the course topics to Civil and Environmental Engineering problems.

Course Program:

January, 7th 2019

Part 1

9:00-11:00

Probability distributions, random variables and random vectors.

11:00-13:00

Classroom exercises

January, 8th 2019

Part 2

9:00-11:00

Statistical methods and tools for data analysis.

11:00-13:00

Classroom exercises

January, 10th 2019

Part 3

9:00-11:00

Monte-Carlo method and data sampling.

11:00-13:00

Classroom exercises

