

# MONTE CARLO SIMULATION METHODS: THEORY AND APPLICATIONS TO STOCHASTIC AND UNCERTAIN SYSTEM, STRUCTURES AND COMPONENTS

## LECTURE 1

Lecturer: Enrico Zio  
December 2<sup>nd</sup>, 2016, 10:15-13:15  
ROOM: BL27.14

- Introduction to Monte Carlo Simulation

## LECTURE 2

Lecturer: Enrico Zio  
December 5<sup>th</sup>, 2016, 10:15-12:15  
ROOM: Sala Consiglio, BL25

- Monte Carlo Simulation for reliability and availability analysis in complex systems

## LECTURE 3

Lecturer: Piero Baraldi  
December 12<sup>th</sup>, 9:15-13:15  
ROOM: 012, BL25

- Examples and Exercises on Monte Carlo Simulations

## LECTURE 4

Lecturer: Francesco Di Maio  
December 19<sup>th</sup>, 2016, 10:15-13:15  
ROOM: 012, BL25

- Dynamic reliability methods: accidental scenarios simulation and processing (Part 1)

## LECTURE 5

Lecturer: Nicola Pedroni  
December 20<sup>th</sup>, 2016, 10:15-13:15  
ROOM: 012, BL25

- Markov Chain Monte Carlo for model and parameter identification

## LECTURE 6

Lecturer: Francesco Di Maio  
December 21<sup>th</sup>, 2016, 10:15-13:15  
ROOM: 012, BL25

- Dynamic reliability methods: accidental scenarios simulation and processing (Part 2)

## LECTURE 7

Lecturer: Piero Baraldi  
ROOM: Sala Consiglio, BL25  
January 9<sup>th</sup>, 2017, 10:15-13:15

- Monte Carlo and possibilistic methods for uncertainty analysis

## LECTURE 8

Lecturer: Piero Baraldi  
ROOM: Sala Consiglio, BL25  
January 11<sup>th</sup>, 10:15-13:15

- Exercises on Monte Carlo and possibilistic methods for uncertainty analysis

## LECTURE 9

Lecturer: Francesco Cadini  
January 13<sup>th</sup>, 10:15-13:15  
ROOM: 012, BL25  
Particle Filtering for diagnosis, prognosis and on condition maintenance

## LECTURE 10

Lecturer: Francesco Cadini  
January 16<sup>th</sup>, 10:15-13:15  
ROOM: L1.0, B12  
• Exercises on particle filtering for diagnosis, prognosis and on condition maintenance

## EXAM (1<sup>st</sup> possible day)

ROOM: 012, BL25  
January 27<sup>th</sup>, 2016; 9:15-13:15  
• Discussion of the projects

## EXAM (2<sup>nd</sup> possible day)

ROOM: L1.0, B12  
February 14<sup>th</sup>, 2016; 10:15-13:15  
• Discussion of the projects