

International Doctorate in Civil and Environmental Engineering

DOCTORAL COURSE – A.Y. 2021/22

Elements of non-linear dynamics

Teacher: Dr Maria Girardi

Institute of Information Science and Technologies “A. Faedo” (ISTI-CNR)

Email: maria.girardi@isti.cnr.it

Calendar	
16/05/2022 – 10,00-12,00	Introduction and preliminary remarks
18/05/2022 – 10,00-12,00	Perturbation methods for solving non-linear dynamical problems
20/05/2022 – 10,00-12,00	Non-linear oscillations of single and multiple DOF systems
24/05/2022 – 10,00-12,00	Continuous systems, the beam. Numerical methods: solution of initial value problems
26/05/2022 – 10,00-12,00	Numerical methods: finite element codes. Some applications
Total	10 hours – 5 credits

Program
This course provides students with notions about the dynamical behaviour of non-linear mechanical systems and the methods for solving the corresponding equations of motion.