

## International Doctorate in Civil and Environmental Engineering

DOCTORAL COURSE – A.Y. 2020/21

### Elements of non-linear dynamics

Teacher: Dr Maria Girardi

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Calendar	
03/05/2021 – 10,00-12,00	Introduction and preliminary remarks
05/05/2021 – 10,00-12,00	Perturbation methods for solving non-linear dynamical problems
07/05/2021 – 10,00-12,00	Non-linear oscillations of single and multiple DOF systems
10/05/2021 – 10,00-12,00	Continuous systems, the beam. Numerical methods: solution of initial value problems
13/05/2021 – 10,00-12,00	Numerical methods: finite element codes. Some applications
Total	10 hours – 5 credits

Program
This course provides students with some notions related to the dynamical behaviour of non-linear mechanical systems and to the methods for the solution of the corresponding equations of the motion.