

# Elements of non-linear dynamics

## Professor

Maria Girardi

## Email

maria.girardi@isti.cnr.it

## Institution

ISTI-CNR, Institute of  
Information Science and  
Technologies "A. Faedo"

## General Information

The course provides some basic notions on the dynamic behaviour of non-linear mechanical systems. Perturbation methods and the most common algorithms for solving non-linear dynamic problems are also introduced.

## Schedule

Dates	Description
<b>29/05/24</b> (10:00-12:00)	Preliminary remarks. Initial value problems
<b>31/05/24</b> (10:00-12:00)	Perturbation methods
<b>04/06/24</b> (10:00-12:00)	Non-linear oscillators: single DOF systems
<b>06/06/24</b> (10:00-12:00)	Non-linear oscillators: multiple DOF systems
<b>11/06/24</b> (10:00-12:00)	Continuous systems, finite elements
<b>13/06/24</b> (10:00-12:00)	Non-linear dynamic analyses. Some example applications
<b>Total: 12 Hours (INDICEE students: 2 Credits)</b>	

## Other information

The lessons (in English) will be held in person at ISTI-CNR, Area della Ricerca di Pisa, Via G. Moruzzi 1, Building B, gate 19, 1st floor, room C29 "Faedo". A streaming connection will be available for students who cannot attend in person; the teacher will provide the link.

Information and registration: [dott-dicea@unifi.it](mailto:dott-dicea@unifi.it) ([www.indicee.unifi.it](http://www.indicee.unifi.it))