Online PhD course:

Applications of Perturbation Methods to Structural Dynamics

Prof. Francesco D'Annibale and Dr. Giovanni Migliaccio

Department of Civil, Construction-Architectural and Environmental Engineering,
University of L'Aquila (Italy)

Schedule

- Monday January 20, 2025, 10:00-12:00, Prof. D'Annibale
- Monday January 20, 2025, 15:00-18:00, Dr. Migliaccio
- Tuesday January 21, 2025, 10:00-13:00, Dr. Migliaccio

This course provides the application of perturbation methods for solving weakly nonlinear problems governing the dynamics of structures.
Paradigmatic problems, such as the nonlinear dynamics of discrete and continuous systems under conservative and non-conservative loads, are presented.

Course outline
1) A weakly nonlinear algebraic equation representative of structural dynamics;
2) Introducing one or multiple perturbation parameters into the structural problem;
3) Initial value problems for structural systems: Straightforward Expansion and Multiple Scale Method;
4) Nonlinear dynamics of discrete and continuous viscoelastic systems.

In order to register for the course please send an email to **dicamphd@unitn.it**