



1<sup>st</sup> CALL FOR PAPERS

**NODYCON 2019**

**First International  
Nonlinear Dynamics Conference**

**17 - 20 February 2019**



**Springer**



**SAPIENZA**  
UNIVERSITÀ DI ROMA



# GENERAL INFORMATION

The First International Nonlinear Dynamics Conference will be held at Sapienza University of Rome, February 17-20, 2019. NODYCON intends to foster the tradition of an illustrious conference series that was originally launched by Prof. A. H. Nayfeh in 1986 at Virginia Tech as the *Nonlinear Vibrations, Stability and Dynamics of Structures Conference*. NODYCON 2019 aims to provide a forum for researchers and practitioners to present, discuss and disseminate recent advances in nonlinear dynamics research reflecting the rich spectrum of topics covered by NONLINEAR DYNAMICS.

## SCOPE

Papers dealing with one or more of the following topics will be considered for the conference:

- Multi-scale dynamics: coexistence of multiple time/space scales, large system dynamics
- Experimental dynamics: benchmark experiments, experimental methods, instrumentation techniques, measurements in harsh environments, experimental validation of nonlinear models
- Dynamics of structures/industrial machines/equipment/facilities (e.g., cable transportation systems, suspension bridges, cranes, vehicles, etc.)
- Composite and nanocomposite structures (e.g., carbon nanotube/polymer composites): damping, modeling, dynamics
- Adaptive, multifunctional, and metamaterial structures
- Reduced-order modeling: center manifold reduction, nonlinear normal modes, normal forms
- Nonsmooth dynamics
- Systems with time and/or space delays
- Fractional-order system dynamics
- Nonlinear interactions: parametric vibrations with single/multi-frequency excitations, multiple external and autoparametric resonances in multi-dof systems
- Computational techniques: efficient algorithms, use of symbolic manipulators, integration of symbolic manipulation and numerical methods, use of parallel processors.
- Nonlinear system identification: parametric/nonparametric identification, data-driven identification
- NEMS/MEMS and nanomaterials: multi-sensors, actuators exploiting nonlinear working principles
- Multibody dynamics: rigid and flexible multibody system dynamics, impact and contact mechanics, tire modeling, railroad vehicle dynamics, biomechanics applications, computational multibody dynamics
- Fluid/structure interaction
- Influence of nonlinearities on vibration control systems
- Human-machine interaction
- Nonlinear wave propagation in discrete and continuous media
- Advanced cryptography based on chaotic maps
- Ecosystem dynamics, social media dynamics (user behavior dynamics in multi-messages social hotspots, prediction models), financial engineering, complexity in engineering
- Network dynamics (multi-agent systems, leader-follower dynamics, swarm dynamics, biological networks dynamics).



## PRIZES

Springer sponsored prizes, named the ALI H. NAYFEH Prizes, in honor of the Journal's founding editor, the late Professor Ali H. Nayfeh, will be awarded for the best papers presented by graduate students. The prize for the first place is €500, for the second place € 400, and for the third place € 300. Referees will decide on the awards based on the quality of both the written paper and the presentation using the criteria of novelty, achievement, potential impact.

## VENUE

The conference will be held at the Faculty of Engineering, downtown Rome, a few steps away from the Colosseum and the Forum sites, and from Cavour metro station. Termini station, the main railway station in Rome, is in a walking distance from the Faculty of Engineering. It can be reached from Fiumicino airport via Leonardo Express trains (<http://www.trenitalia.com/tcom-en/Services/Fiumicino-Airport>), a non-stop service that takes 32 minutes and runs every 15 minutes. The one-way ticket is €14.

## PUBLICATION

The two-page abstracts to be written according to the template provided on the Conference website will be published in the Conference Book of Abstracts. Authors will have the option of having their full-length papers considered for publication in a Special Issue of **NONLINEAR DYNAMICS** (<https://link.springer.com/journal/11071>). To accelerate the reviewing process, referees will be invited from those who will attend the conference.

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## IMPORTANT DATES

September 14, 2018  
October 5, 2018  
October 15, 2018  
October 30, 2018  
January 15, 2019  
January 30, 2019  
February 17-20, 2019

Receipt of two-page abstracts  
Notification of abstract acceptance  
Deadline of early registration  
Receipt of full papers (optional)  
Deadline for conference registration  
Notification of full paper acceptance  
Conference

## REGISTRATION

The standard registration fee to attend is €450 per person if registered on or before October 15, 2018 (€300 for each student accompanied by his/her professor). Standard registrations received after October 15 will be €550 and €350 for students. A reduced registration fee of € 350 is granted to Symposia organizers.

The registration fee includes the Conference Book of Abstracts, a welcome reception Sunday evening, coffee breaks, lunch Monday through Wednesday, the guided tour of the Capitoline Museums, and the banquet on Tuesday evening. Guest lunches (Monday-Wednesday) are €30 per person, Guest dinner (Tuesday) is €90 per person.

## LODGING

Special rates have been secured for a number of hotels and B&Bs near the Engineering School. Participants are responsible for making their own lodging arrangements. The full list of hotels and B&Bs will be available on the Conference website.

## SOCIAL PROGRAM

A tour of the Capitoline Museums in the very centre of Rome is scheduled for Tuesday afternoon. After the tour the banquet will be hosted on Terrazza Caffarelli, a panoramic rooftop on the Capitoline Hill with magnificent views on the Forum sites (TBD).

## ALL CORRESPONDENCE

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