



**UNIVERSITY
OF UDINE**

CALL FOR ADMISSION

PhD in Mechanical Engineering

PhD course in Industrial and Information Engineering, University of Udine, Italy

Theme: *“Design for linear and non-linear vibration management in professional appliances for laundry systems”*

The Research Hub by Electrolux Professional offers a **3-year scholarship** for a doctoral student placement in **Electrolux Professional’s Global R&D**. At our facilities in Pordenone in northern Italy and in Ljungby in southern Sweden, we have created an attractive research environment for PhD students who want to be part of an international company and be directly involved in the product development process, in particular the innovation generation phase, both incremental and disruptive.

The specific objective of this PhD project is to study and develop a new suspension system for the drum of a washing machine based on non linear components. The work will involve the construction of a “digital twin model” of the washing machine and proposed suspension system. The digital twin will encompass a Simulink lumped parameters model which is interfaced to a washing machine test rig via a multichannel digital platform and to a CAD platform with the distributed parameter models of specific components, which can be interfaced to 3D-printing machines. This setup will allow, on one hand, on-line system identification and model updating as well as on-line implementation of semi-active and active systems and, on the other, hand the design and 3D printing of new components. The project will therefore involve both fundamental research activities on the physics of vibration isolation with linear/non linear passive and semi-active and active systems and applied research for the design and fabrication of a prototype innovative isolation system.

The project is highly multi-disciplinary and requires a strong background on mechanical vibrations, mechatronics CAD-CAE design. The doctoral fellow will receive training and actively perform theoretical and experimental research.

POSITION REQUIREMENTS:

- M.Sc. (Laurea Magistrale) with a background in vibration and mechatronics subjects
- Specific experience with multi-body simulation, Matlab/Simulink, laboratory acquisition systems, Cad-CAE design and 3D-printing is an advantage
- Open-minded, creative & proactive
- A performance driven approach
- Enthusiasm
- Willing to travel

Required Languages

- English

Location:

Electrolux Professional, Pordenone (Italy) and Ljungby (Sweden) and the Automation and Control Laboratory of the University of Udine (Italy)

About the company:

Electrolux Professional is a global leader in the production and distribution of professional food, beverage and laundry solutions. We are looking for innovative, open-minded, optimistic people with a “can-do” attitude who can translate a thoughtful vision into action. If you believe these qualities apply to you, we encourage you to find out more on our website:

theresearchhub.electroluxprofessional.com/phd