



MARIE Skłodowska-CURIE INNOVATIVE TRAINING NETWORK

OPEN CALL – PhD position



Host (recruiting) organisation

University of Pavia, Pavia, Italy

Project Title:

Design and manufacturing of
3D-printed structural component

Supervisory team

Primary academic institution Prof. Ferdinando Auricchio Università di Pavia	Industrial institution Mr. Davide Ardizzoia 3NTR
Secondary academic institution Prof. Thierry J. Massart Université Libre de Bruxelles	

Project description

The aim of the project is to develop a computer-based framework, able to support the design of performance-optimized 3D-Printed (3DP) components, by: i) modeling 3D-printed material behavior in terms of deposition modality, (ii) optimization of the component performance, based on functional constraints and on 3DP device-dependent process parameters, (iii) translation of the optimized solution into suitable machine instructions to drive the 3D printing device. The developed techniques will be based on constitutive modeling, homogenization for multi-scale problems, as well as shape and topology optimization techniques.



MARIE Skłodowska-CURIE INNOVATIVE TRAINING NETWORK

Benefits

- Doctorate degree from both University of Pavia and Université Libre de Bruxelles
- Integration within the research group of a top Italian 3D printer industry leader
- 36 month full-time employment contract
- Additional mobility and family allowances
- Research supervision and training by recognised experts in computational mechanics from academia and industry
- Access to state-of-the-art research and computing facilities
- Training in transversal skills (e.g. communication skills, entrepreneurship)

Prerequisites

- To have a strong undergraduate and MSc degree (or equivalent) in Engineering, Mathematics, Physics or a related field and a good level of English
- To have an enthusiastic attitude to conduct research, being hard-worker and critic
- To demonstrate knowledge of programming languages such as Matlab, Python, C++
- To have experience with Finite Element analysis

Eligibility

Applicants shall, at the time of recruitment by the University of Pavia, be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree. Full-Time Equivalent Research Experience is measured from the date when a researcher obtained the degree, which would formally entitle him/her to embark on a doctorate, irrespective of whether or not a doctorate is or was ever envisaged.

At the time of recruitment by the host organisation, researchers must not have resided or carried out their main activity (work, studies, etc.) in ITALY for more than 12 months in the 3 years immediately prior to the reference date.

Duration of the project

The total duration of the project is 36 months.

Obligations of ESRs

- Completion of the Erasmus Mundus Joint PhD programme Simulation Engineering and Entrepreneurship Development (SEED)
- Be highly committed with quality research, training and management. The successful candidate is expected to become a future leader on the development and application of advanced computational methods for industry
- Take part of the mobility programme both in academia and industry
- Participate on the dissemination and outreach activities associated to the project
- Attend international conferences and present the research undertaken
- Contribute to the writing of articles in high impact international journals

Closing date

Until position is filled

How to apply

www.lacan.upc.edu/ProTechTion

Questions

protection.itn@upc.edu