



Open position for PFC candidate – Cluster computing

Institution: Institute for Bioengineering of Catalonia (IBEC), Barcelona, Spain

Research line: Biomechanics & Mechanobiology - IT Unit

Collaborating entity: Laboratori de Recerca i Desenvolupament (RDlab) del Departament de Llenguatges i Sistemes Informàtics, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain

INSTITUTION AND RESEARCH LINE

The Institute for Bioengineering of Catalonia (IBEC) is a research institute covering most bioengineering fields, from basic research to medical applications.

The Biomechanics & Mechanobiology research line (www.biomechanics.es) explores the effect of mechanical stimuli on biological response. Numerical methods are used to model different mechanical interactions from organ to cell level, and particular attention is paid to the functional load transfers that naturally shape most of the connective tissues.

PROJECT

The project proposed focuses on the creation and the implementation of a new calculation cluster to support the numerical research of the Biomechanics & Mechanobiology research line of IBEC. The candidate will be supported primarily by the IT Unit of IBEC, but will closely interact with the researchers of the Biomechanics & Mechanobiology group and will participate to all regular group meetings.

The main objective of the project is to optimize the actual IT infrastructure and decide the best strategy to integrate the cluster platform to our computing system. A first approach will be based on the use of open source software and the work will include the creation of the administration center to manage all the resources of the cluster like image deployment, administration dashboard, etc... Furthermore, we will try to optimize all the research software of the research line (Abaqus, Fluent, Marc Mentat, Salomé Meca, Octave,...) to increase the performance.

Besides the support provided by the IT Unit of IBEC, the project will be monitored and mentored by the RDlab (<http://rdlab.lsi.upc.edu/>)

PROFILE OF THE CANDIDATE AND CONTACT INFORMATION

The candidate should be finishing his/her degree in computer science and should be able to spend a minimum of 450 hours with the project, i.e. full time over three months, or half time over six months. He/she should be motivated to work in a highly international and multidisciplinary environment, with English as preferred working language.

Interested persons should send their CV and a cover letter to Jérôme Noailly (jnoailly@ibecbarcelona.eu), Anton Poto (apoto@ibecbarcelona.eu), and Gabriel Verdejo (gabriel@lsi.upc.edu).