Postdoc Position in Finite Element Numerical Modeling for Scanning Probe Microscopies (Ref. JDC-GG)

IBEC (Institute for Bioengineering of Catalonia) is an interdisciplinary research center focused on Bioengineering and Nanomedicine based in Barcelona. IBEC's **mission** is to develop international high quality interdisciplinary research that, while creating knowledge, contributes to making a better quality of life, improving health and creating wealth. A close link with key universities, reference hospitals and corporations, are assets that facilitate achieving the mission.

IBEC was founded in 2005 by the Generalitat de Catalunya, the University of Barcelona (UB) and the Polytechnic University of Catalonia (UPC).

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The **Nanoscale Bioelectrical Characterization** group at the **Institute for Bioengineering of Catalonia (IBEC)** is looking for **postdocroral candidates** to apply for the **2015 calls** of the Spanish Ministry of Economy and Competitiveness **Juan de la Cierva.**

Tasks and responsibilities:

- Development of 3D tomographic reconstruction algorithms for scanning probe microscopies (inverse problem).
- Mathematical/physical modelling of electric scanning probe microscopies (forward problem).

Requirements for candidates:

- PhD Degree in Mathematics, Physics, Engineering or equivalent.
- Demonstrated experience in Finite Element Numerical Simulations.
- Experience with programming languages and finite element numerical software suites will be a value (e.g. C++, Python, COMSOL MULTIPHYSICS, MATLAB, etc.).
- Knowledge/Experience in Tomography, Scanning Probe Microscopy or Bioelectricity will be a plus.
- Self-critical, capacity to learn and bring knowledge.
- High level of English (Spanish and/or Catalan will be a value).
- High motivation and ability to be involved in an international multidisciplinary team.
- Excellent team working and communication skills.

Selected references:

- M. C. Biagi et al., **ACS Nano** (doi: 10.1021/acsnano.5b04279) (2015)
- D. Esteban-Ferrer et al., **ACS Nano** 8, 9843 (2014)
- A. Cuervo et al., **PNAS** E3624–E3630 (2014)
- L. Fumagalli et al. **Nature Materials** 808, 11 (2012).

HR EXCELLENCE IN RESEARCH

IBEC is committed to the principles of the Code of Conduct for the Recruitment of Researchers of the European Commission. Thus, there are no restrictions of citizenship or gender and candidates with disabilities are strongly encouraged to apply.