TWO MARIE-CURIE PHD POSITIONS IN COMPUTATIONAL SYSTEMS BIOLOGY AT IIM-CSIC, VIGO (SPAIN)

Applications are invited for two Early Stage Researcher Positions in computational systems biology under the supervision of Prof. Julio R. Banga, IIM-CSIC (Spain), starting in 2016.

Position **ESR6: novel methods for systematic development of dynamic models of biological systems.** This ESR fellow will develop and apply systematic reverse-engineering methods for dynamic model identification, selection and discrimination. The methods will be tested on case studies from bacterial metabolism and cell signalling pathways. Candidates should have a strong background in mathematical modelling and simulation.

Position **ESR7: optimal control methods to explain and predict operating principles in biochemical pathways.** This ESR fellow will focus on developing and testing novel methods and tools for dynamic optimization of complex biochemical pathways. The methods will be tested on metabolic and cell signalling pathways. Candidates should ideally have a strong background in mathematical modelling, optimization, and control theory.

**CONDITIONS**

**Duration:** 36 months. These Early Stage Researchers (ESRs) will be hired for 36 months each and will be expected to pursue a PhD. Candidates must be in possession of a relevant Masters degree (or very close to obtaining it) at the time of appointment.

**Salary** will be excellent, in the range of 33-36 k€ gross/year, according to EU regulations (Marie Curie ITN Early Stage Researcher conditions).

**Other benefits:** the ESRs will be involved in a Marie-Curie network with excellent opportunities for scientific and personal development, including funding for short stays at top-class research groups in Germany and the UK, plus regular training events and meetings across Europe.

**REQUIREMENTS AND ELIGIBILITY**

Candidates should have excellent grades, and a strong background in mathematical modeling and scientific computing. Previous experience in mathematical optimization and/or control theory will be appreciated. **Candidates with a background in engineering, bioinformatics, applied mathematics or physics are especially encouraged to apply.**

Early Stage Researcher means less than 4 years of experience, e.g. PhD student. Geographic **mobility and eligibility requirements for Early Stage Researchers apply.**

The candidates:
1.- should not have a PhD
2.- should have less than 4 years of research experience
3.- any nationality, but must not have resided or carried out their main activity in the country of the host institution (Spain) for more than 12 months in the 3 years immediately prior to their recruitment
4.- must have an excellent command of English (Spanish is not mandatory), and interest to work and do research in the interdisciplinary field of systems biology
HOW TO APPLY

Applicants should submit by email to julio@iim.csic.es a: (i) detailed cover letter outlining their research interests, (ii) curriculum vitae, (iii) scanned copies of Master's degree certificates, and (iv) the names and email addresses of two confidential references.

**Deadline: apply as soon as possible, and not later than 31 Oct 2015. Expected starting date is Feb-2016 (with some flexibility).**

Primary supervisor: Julio R. Banga, IIM-CSIC, Vigo (Spain)

For further information on the position, contact Julio R. Banga ( julio@iim.csic.es ).

For the scientific background of the supervisor, please visit [http://www.iim.csic.es/~julio/](http://www.iim.csic.es/~julio/)

FURTHER INFORMATION

LOCATION

These positions will be hosted by the [BioProcess Engineering Group at IIM-CSIC, Vigo (Spain)](http://www.iim.csic.es/~gingproc/)

More info:

- about the group at [http://www.iim.csic.es/~gingproc/](http://www.iim.csic.es/~gingproc/)

**CSIC** is the Spanish National Research Council, which is the largest public institution dedicated to research in Spain and the third largest in Europe ([http://www.csic.es](http://www.csic.es))

MARIE CURIE ITN

These positions are part of an [H2020 MARIE-CURIE TRAINING NETWORK](http://cordis.europa.eu/project/rcn/198513_en.html)

**PROJECT TITLE:** **SYSTEMATIC MODELS FOR BIOLOGICAL SYSTEMS ENGINEERING ("SyMBioSys")**

Mathematical, computational models are central in biomedical and biological systems engineering. SyMBioSys is a joint academic/industrial training initiative supporting the convergence of engineering, biological and computational sciences.

The consortium's mutual goal is developing a new generation of innovative and entrepreneurial early-stage researchers (ESRs) to develop and exploit cutting-edge dynamic (kinetic) mathematical models for biomedical and biotechnological applications. SyMBioSys integrates: (i) six academic beneficiaries with a strong record in biomedical and biological systems engineering research (four universities and two research centres); (ii) four industrial beneficiaries including key players in developing simulation software for process systems engineering, metabolic engineering and industrial biotechnology; (iii) three partner organisations from pharmaceutical, biotechnological and entrepreneurial sectors.