



Marie Skłodowska-Curie Innovative Training Network Action  
**European Industrial Doctorate**  
(MSCA-ITN-EID)



**4D analysis of heart development and regeneration  
using advanced light microscopy**  
**4DHeart**

6 PhD student positions are available to develop their thesis within the European Industrial Doctorate Training Network 4D Heart. *In vivo* imaging and the possibility to evaluate cellular behaviour in a developing, regenerating, living and beating heart is an invaluable tool to investigate the biological principles governing the cardiovascular system and those that impact cardiovascular health. This EID training network will provide an innovative blend of training to early stage researchers at the intersection of the fields of cardiovascular biology, optics and bio-computing through a co-mentorship between an academic and industrial partner and a joint multidisciplinary training program.

**Individual Projects:**

**ESR 1** Quantitative analysis of cardiac morphogenesis through live optical time lapse microscopy.  
*IGBMC, France and Leica, Germany.*

**ESR 2** Quantification of pericardium development using optical manipulation.  
*Leica, Germany and IGBMC, France.*

**ESR 3** 3D and 3Dt Atlas of cardiac development in the zebrafish.  
*Ecole Polytechnique - CNRS, France and Bitplane, Switzerland.*

**ESR 4** Time-lapse 4-D analysis of cardiac development in the mouse.  
*CNIC, Spain and Bitplane, Switzerland.*

**ESR 5** High-content screening assay for the identification of compounds enhancing epicardium formation.  
*UBERN, Switzerland and Acquifer, Germany.*

**ESR 6** In-vivo characterization of dynamic myocardial tissue changes in different mammals.  
*PHILIPS and CNIC, Spain; IDIAP, Switzerland.*

**Starting date:** Summer 2017.

**Requirements:** We are seeking highly motivated candidates from a broad range of backgrounds, including Physics, Electrical-, Computer-, or Bio-engineering, and Biology. Applicants must have passed a minimum of 300 ECTS in the set of official university studies and have a Master Degree. Good English communication skills are mandatory.

**Eligibility:** Candidates must be in the first four years (full-time equivalent) of their research careers and have not yet been awarded a doctoral degree. They must **not have resided** or carried out their main activity (work, studies) in **the hosting country** for more than 12 months in the 3 years immediately prior to the recruitment date.

**More information:** <http://www.4dheart.eu>



J. Gehrig

P. Majer

M. Torres  
B. Ibáñez

W. Supatto

J. Vermot

W. Knebel  
P. Haas

J. Sánchez

N. Mercader

Please send your CV, a cover letter addressing your qualifications as they pertain to this position and the contact information of three referees to [Imanukyan@cnic.es](mailto:Imanukyan@cnic.es) before **30.06.2017**. Please quote the reference of the individual project.