INPhINIT
"la Caixa" Fellowship Programme

Many people form part of history.
Only a few manage to change it.

IBEC Institute for Bioengineering of Catalonia

EXCELENCIA SEVERO OCHOA

IBEC participates in
"la Caixa" Fellowship Programme with
a set of **stimulating PhD projects** and
excellent research groups
to host the fellows

Signal and information processing for sensing systems group
Group leader: Santi Marco

Data Analysis Challenges in the Discovery of Volatile Biomarkers

The aim of the project is the definition of a data analysis workflow for the analysis of metabolomic datasets. Emphasis will be made on the control of confounders, instrumental shifts and the role of quality control samples. This workflow will be adapted to Chromatography with diverse detectors: e.g Mass Spectrometry, Ion Mobility Spectrometry.

S. Marco, The need for external validation in machine olfaction: emphasis on health-related applications, ABC, 2014; S.Oller-Moreno, Sliding window multi-curve resolution: Application to gas chromatography–ion mobility spectrometry, S&A,B (2015); A.V. Guaman, Rapid Detection of Sepsis in Rats through Volatile Organic Compounds in Breath, J. Chromatography B, 2011.

Job position description

PhD will participate in ongoing research projects in the area in collaboration with diverse clinical partners. The PhD will be focused on data processing using statistical, chemometrics, machine learning and bioinformatic tools. It is expected that the candidate has some previous experience in data analysis at the level of master thesis or undergraduate thesis work. Previous exposure to instrumental techniques for omics will be positive to carry out the research.