

<b>Call reference number</b>	(ECLectic-MSCA-DN)
<b>Call name</b>	ElectroChemiLuminescence doctoral network for early sepsis diagnosis (ECLectic)
<b>Application Deadline</b>	2024/04/26

### Introduction and main description

BCMaterials, Basque Center for Materials, Applications and Nanostructures, is an autonomous research center launched in June 2012 by Ikerbasque, the Basque Foundation for Science and the University of the Basque Country (UPV/EHU) as a research center for Materials, Applications and Nanostructures. The center is included in the BERC's (Basque Excellence Research Centers) network and its mission is to generate knowledge on the new generation of materials, turning this knowledge into (multi)functional solutions and devices for the benefit of society.

We offer one three-year position for a PhD degree to begin in June/November 2024 as part of the Horizon Europe Marie Skłodowska-Curie Action Doctoral Network (HE-MSCA DN) entitled "ElectroChemiLuminescence doctoral network for early sepsis diagnosis".

ECLectic is a doctoral training network coordinated by the University of Bologna. Through an ambitious multidisciplinary doctoral program, we will train the next generation of clinically oriented analytical scientists capable of delivering innovative solutions that will improve the lives of patients, reduce the cost of healthcare and position Europe as a leader in biomedical devices.

We have selected sepsis as the target disease because it is a significant analytical challenge, demanding extreme detection sensitivity, high selectivity and extremely rapid response. ECL is a powerful diagnostics tool with exceptional performance in terms of signal to noise ratio. To reach these goals, we have assembled a highly inter- and multidisciplinary and cross-sectoral eclectic team of analytical scientists, (nano)(bio) materials specialists, microfluidic device engineers as well as clinicians so as to enable ultimate translation to the clinic.

The main objective of this PhD is to develop an integrated microfluidic platform for the multiplex detection of sepsis biomarkers.

### Skills and Requirements

We are looking for highly motivated, outstanding students with optimal interpersonal and communication skills.

All candidates must prove full proficiency in spoken and written English.

Candidates must hold a Master's degree, and show excellent academic transcripts both at degree and Master's level in one of the following disciplines:

- Chemistry.
- Bioengineering.
- Electronics Engineering.
- Industrial design.

### Skills and Requirements

Applicants who will complete their Master's degree by the deadline for enrolment in the PhD programme are also entitled to apply.

Full requirement details can be found in: <https://euraxess.ec.europa.eu/jobs/197592>

### Work Program / Duties / Responsibilities

The main objective of this PhD is to develop an integrated microfluidic platform for the multiplex detection of sepsis biomarkers.

The successful candidate should be able to:

1. Demonstrate a microfluidic ECL-based system for the detection of sepsis protein biomarkers with integrated electrochemical electrodes and optical sensing.
2. Show a proof-of-concept demonstration of device operation from spiked serum samples and to test of platform in a clinical environment.

### Application Procedure

Apply by submitting a motivation letter and a CV (in English) using the "Contact" button at the corresponding offer, at the "Join Us" area on BCMaterials' portal (<https://www.bcmaterials.net/join-us>).

Your name and email address will be required for further contact too.

### Other Relevant Information

**Only applications entered through EURAXXES will be considered.**

**For full details, please visit: <https://euraxess.ec.europa.eu/jobs/197592>**

**Contact person at BCMaterials: [javier.delcampo@bcmaterials.net](mailto:javier.delcampo@bcmaterials.net)**