

# Université Claude Bernard Lyon 1- Hosting offer for a MSCA Post-doctoral fellowship candidate in Organic Chemistry and redox catalysis

<b>Host Organisation</b>	<b>Université Claude Bernard Lyon 1</b>
<b>Department</b>	<b>Chemistry</b>
<b>Laboratory</b>	<b>ICBMS UMR 5246</b>
<b>Website (lab / research team)</b>	<b><a href="https://www.icbms.fr/en/team/6-score-html">https://www.icbms.fr/en/team/6-score-html</a></b>
<b>Supervisor Contact name</b>	<b>AMGOUNE Abderrahmane</b>
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## Host Organisation

The Université Claude Bernard Lyon 1 welcomes Marie Sklodowska Curie Postdoctoral Fellowships applications !

With 62 laboratories and more than 7000 publications per year, and leading French university in terms of the number of patents filed in collaboration with industry, Lyon 1 contributes to scientific and innovation progress in numerous fields: health, mathematics, IT, physics, chemistry, earth and space sciences, life sciences, etc. Creator of emerging knowledge and new technologies, the University is consolidating its research excellence on a global and international level by developing inter- and multidisciplinary approaches targeting the major challenges facing today society.

## Host research lab/team

The ICBMS laboratory is a leading research lab in Europe in organic synthesis and synthetic methodologies including homogenous catalysis (organometallic, organocatalysis), fluorine chemistry, and physico-chemical organic chemistry geared towards obtaining molecules with high added value and in high efficiency.

The ICBMS Laboratory gathers 12 research teams that work in close collaboration and benefit from the support of administrative facilities but also from 2 joint research centers (NMR and Mass Spectrometry) and a chemical library unit. Between 2014-2019, the scientific production resulted in the publication of nearly 600 articles and the defense of 73 theses. Members of the institute are also involved in teaching at the University of Lyon, in particular for the chemistry and biochemistry Masters. Each year, the institute also welcomes many trainees (DUT, L3, engineering students, M1, M2). Our teams have built strong and lasting ties with many academic teams around the world (China, Japan, United

States, Germany, Great Britain, Italy ...) with one of them being a stakeholder in an International Laboratory (IRP) located in Madagascar. The ICBMS has developed strong relationships with more than 35 industrial partners, materialized by numerous contracts, patent filings (21 over the last five years) and the supervision of doctoral students under private contract.

The ICBMS is Housed in modern and recently built buildings, the Institute of Molecular and Supramolecular Chemistry and Biochemistry (ICBMS) is located on the "LyonTech-La Doua" and the "Rockefeller" sites. Both sites are equipped with cutting-edge equipment.

The **SCORE** research team gathers several researchers with complementary skills and expertise to develop chemistry projects at the forefront of *redox catalysis and organic synthesis*. This collaborative scheme undoubtedly constitutes the greatest strength of our team and is the cornerstone of our scientific programs. Our research interests encompass synthetic organic and organometallic chemistry, transition metal catalysis, organocatalysis, photoredox catalysis, and electrochemistry. More specifically, research in the SCORE-Lab seeks to merge the rational design of molecular catalysts (organic and organometallic) with the creative use of photochemical and electrochemical techniques to efficiently and sustainably convert readily available feedstock chemicals to high added-value organic scaffolds. A significant part of our efforts is dedicated to fundamental mechanistic studies of new catalytic processes through multidisciplinary approaches.

### **Hosting Offer**

The **SCORE lab (ICBMS UMR 5246)** offers to host a MSCA Postdoctoral Fellowship candidate (typically a post-doc of less than 8 years research experience since PhD defence), submitting an application to the next MSCA-2024 - PF call for proposals (deadline 11<sup>th</sup> September 2026), interested to work on the following research topic:

The research project will involve the development of innovative catalytic approaches combining transition metal catalysis with photocatalysis and electrochemistry for the construction of carbon-carbon and carbon-heteroatom bonds starting from readily available feedstock material. Light excitation will be used to generate highly reactive species from catalytic organometallic precursors, while electrochemistry will modulate the oxidation state of catalytic intermediates under precise conditions. The development of this catalytic protocol will provide direct access to important synthetic targets.

This project will be carried out in the framework of a collaborative work between *different members of the SCORE team bearing strong expertise* in synthetic electrocatalysis, in photoredox catalysis and in transition metal catalysis. This project will combine several chemistry topics including organic synthesis, electrochemistry, photoredox catalysis and organometallic chemistry

The fellowship could last for 12 to 36 months, depending on the type of Postdoctoral Fellowship.

### **Supervision**

The successful Marie-Curie Post-doctoral fellow will be supervised by Dr. Maurice MEDEBIELLE and Pr. Abderrahmane AMGOUNE.

Maurice MEDEBIELLE is CNRS research director and has experience (> 30 years) in fluorine chemistry, and redox-driven synthesis with the use of neutral electron-donors, electro- and photo-catalytical methodologies. His current research interests include photochemical and electrochemical strategies to propose synthetic useful approaches of advanced intermediates and medicinal relevant scaffolds. He is also engaged in developing modular synthesis of novel redox-active molecules with specific properties that could find applications as electrolytes for Organic Redox-Batteries (ORBs), new modulable redox mediators/organic electron-donors (OEDs), and in materials science.

Abderrahmane AMGOUNE is a professor of organic chemistry at Universite Claude Bernard Lyon 1. His research interests include range from fundamental organometallic chemistry to the development of dual catalytic strategies with transition metals for the selective activation and functionalization of challenging C-H, C-N and C-O bonds. He is particularly seeking to merge the rational design of transition metal catalysts with the creative use of photochemical and electrochemical strategies. A significant part of his research efforts is dedicated to fundamental mechanistic studies of new catalytic processes through multidisciplinary approaches.

### **Application process**

Interested candidates are invited to contact us exclusively by email at [maurice.medebielle@univ-lyon1.fr](mailto:maurice.medebielle@univ-lyon1.fr) and [abderrahmane.amgoune@univ-lyon1.fr](mailto:abderrahmane.amgoune@univ-lyon1.fr)

Make sure that you include the reference to this offer in the title of your email. Please attach a CV, a motivation letter, your MSc marks, **as well as a 1 page research proposal.**

### **Professional grant application support:**

Candidates will receive the support of the supervisors, as well as online training from a professional grant application company, and advices from successful applicants, to prepare and submit their application with the ICBMS SCORE group as a host laboratory, to the next MSCA-PF call for proposals.