

Postdoctoral Researcher in Hyperpolarized NMR / MRI at the Research Group Molecular Imaging for Precision Medicine in Barcelona



Introduction to the vacant position:

The Molecular Imaging for Precision Medicine (MIPMED) is looking for a Postdoctoral Researcher to join our team.

The ideal candidate will be an NMR/MRI Physicist or Chemist with a strong background in hyperpolarization techniques, such as Dynamic Nuclear Polarization (DNP) and/or Parahydrogen-Induced Polarization (PHIP). Expertise in programming, pulse sequence development and implementation is essential. The candidate should also have a passion for mentoring and training students.

Our group develops hyperpolarized NMR/MRSI tools to study cellular metabolism in vitro and in vivo, with particular interest in organ-on-chip platforms and microfluidic devices.

Main tasks and responsibilities:

- Develop and implement innovative pulse sequences for NMR and MRI applications.
- Design and execute experiments to improve hyperpolarization methods and their applications in biomedical research.
- Troubleshoot and resolve technical issues related to hyperpolarization experiments and equipment.
- Mentor and train graduate students and junior researchers in hyperpolarization techniques, pulse sequence development, and data analysis.
- Organize and lead workshops and seminars to disseminate knowledge on hyperpolarization methods.
- Collaborate with multidisciplinary research teams to advance joint projects and initiatives.
- Present research findings at national and international conferences.
- Foster a collaborative and inclusive lab environment.
- Contribute to the preparation of scientific publications and grant proposals.

Requirements for candidates:

Essential:

- Ph.D. in Physics, Chemistry, or a related field with a focus on NMR/MRI.
- Proficiency in programming languages such as MATLAB, Python, or C++.
- Demonstrated expertise in pulse sequence development and implementation.
- Strong problem-solving skills and the ability to troubleshoot complex technical issues.
- Excellent communication and interpersonal skills.
- Experience in working within multidisciplinary and collaborative research environments.
- High level of English

Advantageous:

- Experience with hyperpolarization methods, particularly DNP and PHIP.
- Experience with in vitro and/or in vivo studies of MRI and/or hyperpolarized MRI.
- International experience.

How to apply:

Interested applicants should send their CV, cover letter and the contact of two referees to: imarco@ibecbarcelona.eu. In your cover letter, please describe your experience in hyperpolarization techniques, programming, and pulse sequence development, as well as your approach to mentoring and training students. Applications will be reviewed on a rolling basis, and candidates will be considered until the position is filled.