

The Biomedical Magnetic Resonance Group of the Louvain Drug Research Institute (LDRI) of UCLouvain (<https://uclouvain.be/en/research-institutes/ldri/rema-in-brief.html>) is offering a PhD position in the field of imaging tumor metabolic plasticity in melanoma. The project is granted for 2 years (with potential extension for 2 additional years), starting October 1st 2019.

**Project title :**

Disrupting lactate shuttling and glutamine pathway in melanoma : relevance of metabolic targeting in combination with BRAF or immune checkpoint inhibitors.

**Project summary :**

The BRAF oncogene has recently emerged as a critical regulator of the Warburg phenotype in melanoma, bringing to the fore the importance of metabolic reprogramming in the pathogenesis and treatment of advanced melanoma. Both lactate shuttling and glutamine dependency have been described to drive the metastatic phenotype of melanoma, and to be significant actors of response/resistance in the treatment of melanoma, both in response to BRAF or immune checkpoint inhibition. The goal of the current project is to assess the relevance of targeting (i) the lactate shuttling in melanoma xenografts in the context of resistance to BRAF inhibition, and (ii) the glutamine pathway in the context of response to immunotherapy in melanoma, using in vivo state-of-the-art metabolic imaging techniques, namely dynamic monitoring of metabolic fluxes using hyperpolarized (HP) <sup>13</sup>C-MRS (magnetic resonance spectroscopy) as well as steady-state assessment of metabolites using high-resolution <sup>13</sup>C-MRS.

**Profile :**

The successful applicant must have the following:

- A Master degree in biomedical sciences, pharmacy, biochemistry or similar field, with a minimum average results of 70% (14/20) for the master degree.
- High motivation, curiosity, and commitment to scientific excellence
- Background in cell biology and molecular biology
- Experience in mammalian cell culture
- Knowledge on cellular signaling cascades and regulation mechanisms, immunology, tumor biology, or in vivo experimentation is an advantage
- Interest in imaging and spectroscopy
- Team player skills and enthusiasm to work in a multi-disciplinary, collaborative environment
- Excellent knowledge of the English language

**Application :**

Application including your letter of motivation, CV and academic transcripts of records in English, Dutch or French and in a single PDF file, via e-mail to [benedicte.jordan@uclouvain.be](mailto:benedicte.jordan@uclouvain.be)

**Bénédicte Jordan, PhD**

FRS-FNRS Research Director

UCL, Associate Professor

**Louvain Drug Research Institute (LDRI)****Biomedical Magnetic Resonance Group (REMA)****Nuclear and Electron Spin Technologies Platform (NEST)**

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