

## Postdoc in cell biology / membrane trafficking (application to the C2W programme from European Marie Skłodowska Curie COFUND action)

### Details of the position:

We seek a motivated and experienced post-doctoral candidate, demonstrating an excellent publication track record, to apply to the C2W (Come to/Connect with Wallonie) programme (<https://cometowallonia.eu/>), funded by the European Marie Skłodowska Curie COFUND action. There are currently 30 fellowships available at UNamur and UMons (partner university in the C2W programme). This programme is dedicated to career development of experienced post-doctoral researchers, promoting international mobility, to expand their scientific expertise and acquire new interdisciplinary skills. The successful candidate will be offered a 24-month fellowship, with the possibility of extension through other national and international funding sources.

### Environment:

The University of Namur (UNamur) is located in the center of Belgium, in the French-speaking part of the country, just 45 min by train from the bustling capital city of Brussels. Namur is very well served by public transport. The university offers quality education to more than 7,000 students every year, and hosts more than 900 researchers in all fields of expertise. This context ensures an excellent quality of life, in an environment where historical places and nature are always on the doorstep, with many possibilities of socio-cultural and sports activities.

The DoME team (Dynamics of Membranes & Endocytosis), led by Prof Henri-François Renard, is part of the Research Unit in Cell Biology (Department of Biology), that gathers five teams (approx. 40 people in total). It is also integrated in the NARILIS institute (NAMur Research Institute for Life Sciences), which brings together 35 PIs and 135 researchers from 17 different nationalities, working in basic- and clinical-oriented research at UNamur and the hospital CHU UCL Namur in Mont-Godinne (UCLouvain). Within the institute, several core facilities are available and equipped with state-of-the-art technologies: mass spectrometry, animal facility, genomics, advanced fluorescence and electron microscopy, etc.

### Details of the host lab:

The successful candidate will be integrated into the growing international and dynamic DoME research team, led by Prof Renard (<https://henrifran.wixsite.com/renardhf>). The DoME team explores the fundamental mechanisms that govern the dynamic remodeling of cell membranes, in particular during endocytosis. Our main objective is to molecularly characterize novel unconventional endocytic mechanisms (clathrin-independent) in mammalian cells, and to decipher their functions under pathophysiological conditions, such as cancer. In this context, we are particularly interested in the role of BAR (Bin/Amphiphysin/Rvs) domain proteins, which are key players in the detection/induction of membrane curvature. To address these biological questions, we aim to combine original approaches at the crossroads of several disciplines, such as cell and cancer biology, biophysics, immuno-oncology or medicinal chemistry, and ranging from *in vitro/in cellulo* to *in vivo*, and from wet lab research to clinics. Among our favorite tools to decipher novel biological mechanisms, advanced fluorescence microscopy approaches sit at the forefront. Our lab manages a set of cutting-edge microscopy technologies that is unique in Belgium, among which super resolution Airyscan confocal, 3D-TIRF, STED and lattice light-sheet (the last two will be installed in 2022). Interdisciplinarity in our research also resides in the strong and active collaborative networks we developed over the years (LIBST and de Duve Institute from UCLouvain in Belgium, Institut Curie from Paris in France, Institut de Recherche en Infectiologie from Montpellier in France, etc.).

## Project:

For several years, we have been working on the characterization of clathrin-independent endocytic mechanisms in mammalian cells<sup>1-3</sup>. Located at the interface of cell biology and aforementioned disciplines, the research project will tackle fundamental questions related to the regulation of unconventional endocytosis and its functions in pathophysiological contexts, such as cancer. Among other approaches, the candidate will have the opportunity to use/develop advanced cell biology tools and state-of-the-art fluorescence microscopy technologies available in our lab.

- 1 Renard, H. F. *et al.* Endophilin-A3 and Galectin-8 control the clathrin-independent endocytosis of CD166. *Nat Commun* **11**, 1457, doi:10.1038/s41467-020-15303-y (2020).
- 2 Renard, H. F. *et al.* Endophilin-A2 functions in membrane scission in clathrin-independent endocytosis. *Nature* **517**, 493-496, doi:10.1038/nature14064 (2015).
- 3 Renard, H. F., Garcia-Castillo, M. D., Chambon, V., Lamaze, C. & Johannes, L. Shiga toxin stimulates clathrin-independent endocytosis of the VAMP2, VAMP3 and VAMP8 SNARE proteins. *J Cell Sci* **128**, 2891-2902, doi:10.1242/jcs.171116 (2015).

## Features of candidates:

- The selected candidate must hold a PhD degree. A first postdoc experience will be considered as an advantage.
- The selected candidate will have expertise/experience in one or several of the following fields: cellular/molecular biology, biomedical/medical sciences, immunology, cancer biology, bio-engineering, biophysics, biochemistry, medicinal chemistry.
- The current call will favor candidates demonstrating an interdisciplinary profile or their will to cross the barrier of disciplines. Hence, previous PhD and post-doctoral interdisciplinary experiences will be considered as an advantage, *e.g.* combining biophysics and cell biology. As our core expertise is centered around cell biology, we will favor profiles including expertise/experience in the aforementioned complementary fields, as well as a previously demonstrated interest for cell biology.
- Whatever the original field of expertise of the candidate, we expect him/her to have some past experience in mammalian cell culture or the will to develop this skill.
- Candidates are expected to demonstrate excellent publication track record and experimental skills.
- CVs of candidates with clear and original ideas, and willing to develop them further in order to pursue their career in scientific research, will be at the forefront.
- Other important skills requested: excellent communication and writing skills, great team spirit, self-motivated and motivating for other team members, solution-oriented, open-minded, optimistic, sociable, hard worker, passionate and enthusiastic, eager to contribute to the training of junior researchers, good sense of organization, good sense of humor.
- Languages: English language proficiency (knowledge of French is not requested).
- The selected candidate must be in a situation of international mobility, coming to Belgium. It means that he/she cannot have resided or carried out his/her main activity (work, studies, etc.) in Belgium for more than 12 months in the three years before the deadline of the C2W call.
- Although the call is open to everyone, we would like to favor nationality/culture and gender diversity.

## Applications:

Please send your application as a **single PDF file** to [henri-francois.renard@unamur.be](mailto:henri-francois.renard@unamur.be) before January 31<sup>st</sup>, 2022, 23:00 (Europe/Brussels time).

The application file must contain a detailed CV (max. 5 pages), a motivation letter (max. 2 pages), a complete publication list, and the names and contact information of 3 referees.

*Files that do not correspond to this format will be automatically discarded.*

The selected candidate will be asked to build an application file in collaboration with Prof Renard for the C2W call (deadline of the call: March 7<sup>th</sup>, 2022).

Please, check your eligibility to the C2W call before sending your application to Prof Renard: <https://cometowallonia.eu/call-to-action/#Eligibility-criteria>