# Call for PhD 1 fellowship (DC1)

## MSCA – Doctoral Network

### *Lectin LIgands for Modulation of ImmuniTy = LLiMiT*

LLIMIT is a European doctoral training network dedicated to advancing immunomodulatory glycoscience. Its aim is to empower a new generation of researchers with the skills to design and develop ligands/antagonists targeting immune-related lectins—an innovative but underexplored therapeutic strategy against immune disorders such as allergy, cancer and autoimmunity, one of today's major global health challenges. The consortium unites 7 academic institutions with accredited PhD programs in organic and medicinal chemistry, molecular biology, structural biology, immunology and pharmacology, each with strong expertise in glycoscience. They are joined by 7 non-academic partners and a graduate and research academy, ensuring comprehensive, cross-sector training that spans fundamental science, translational research, and entrepreneurship. Key objectives of LLIMIT include: a) recruiting and training 14 doctoral candidates in a joint, research-based program supported by expert supervision and specialized training events, b) advancing innovative research on immune lectins and carbohydrate ligands, covering the full early drug discovery pipeline: from target identification and validation, through advanced glycochemistry and drug design, to hit and lead discovery; c) establishing a sustainable foundation for European excellence in glycodrug and immunomodulatory research; d) developing a common glycodrug curriculum across participating institutions to standardize and strengthen education in this field; e) building and maintaining long-term partnerships that ensure continuity in training, research, and innovation well beyond the project's duration.

**DC1 PROJECT TITLE.** ***Design and synthesis of novel MGL glycomimetic ligands and their use for selective immune modulation in cancer***.

*Host Institution*: Department of Pharmaceutical Chemistry, University of Ljubljana (UL FFA), Slovenia. https://www.ffa.uni-lj.si/

*Duration*: 36 months, April 2027 - March 2030* (*possible extension of 1 year).

*Supervisor:* Prof. Dr. Marko Anderluh. profile; profile – ResearchGate

*Co-supervisors*: Prof. Dr. Janez Mravljak (UL FFA, SLO), Dr. Caroline Aspord (Université Grenoble Alpes – UGA, FR).
*Progress Committee Members*: Prof. Dr. Janez Mravljak (UL FFA), Prof. Dr. Franck Fieschi (UGA), Dr. Jasna Padovan (Selvita).

**DC1 PROJECT.** The research programme of DC1 aims to advance the development of novel unnatural glycomimetic ligands targeting macrophage galactose-type lectin (MGL), with the ultimate goal of modulating immune responses and exploring new therapeutic opportunities in cancer immunotherapy. The research will focus on three complementary objectives. First, DC1 will design and synthesize novel glycomimetic MGL ligands in collaboration with University of Milan and company Glycodiag. Second, DC1 will investigate ligand–MGL interactions through protein expression and purification, surface plasmon resonance, and structural studies in collaboration with UGA. Third, DC1 will contribute to the functional evaluation of the newly developed ligands assessing their effects on human dendritic cell subsets *in vitro* and their immunotherapeutic potential in humanized tumour models *in vivo*.

**PLANNED SECONDMENTS.** 1. Université Grenoble Alpes (Prof. Dr. Franck Fieschi), DC1 will express and purify the MGL carbohydrate recognition domain (CRD) or extracellular domain (ECD) for use in surface plasmon resonance (SPR) interaction assays to screen newly designed selective

glycomimetic MGL ligand: 2. University of Milan (Prof. Dr. Anna Bernardi) DC1 will synthesize new glycomimetic MGL ligands.

**PhD School enrolment:** Biomedicine PhD School at the University of Ljubljana, Scientific field of Pharmacy. https://www.uni-lj.si/study/doctoral/biomedicine

## APPLICATION PROCEDURE

The position is open to candidates of any nationality, provided they meet the eligibility requirements for Doctoral Candidates (DCs) funded under the Marie Skłodowska-Curie Actions (MSCA), as defined in Section 1.3.2, "Recruited researchers", of the Horizon Europe Work Programme 2026–2027.

Applicants must complete the **LLIMIT Application Form** (provided as a separate document, available at https://llimit.eu/) and submit it, together with all the required supporting documents listed in the form, to llimit@ffa.uni-lj.si by **15 January 2027**. The application for the first round of candidate assessment should consist of the following documents:

- Completed LLIMIT application form;
- Curriculum Vitae (CV) in the Europass format: https://europass.europa.eu/en/create-europass-cv including the details of education and qualifications, work experience, language skills and other relevant skills;
- Motivation Letter;
- Transcript of record (academic studies) and master's degree certificate (when available);
- Two letters of recommendation from academics or research professionals;
- A summary of the master's degree thesis or a brief description of the past scientific activity;
- A short critical summary of a selected paper: https://www.nature.com/articles/s42004-025-01458-6,
- Copy of the valid ID card or Passport.

Please use the subject line "*Application for DC1 position*". The five highest-ranked applicants following the first round of candidate assessment will be invited for an interview.

The salary of the DCs will be paid according to the MSCA rules. See: https://marie-sklodowska-curie-actions.ec.europa.eu/funding/msca-doctoral-networks-2026

## CANDIDATE PROFILE

- 5-years degree (Master) in Pharmacy, Chemistry, Medicinal Chemistry or related fields,
- Experience in medicinal chemistry, organic chemistry and biophysical techniques is welcome,
- Good level of English proficiency (understood, spoken and written),
- Team spirit and proactive attitude.

Information also available at: https://euraxess.ec.europa.eu/ and https://llimit.eu/.