Call for PhD 8 fellowship (DC8)

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.

DC8 PROJECT TITLE. ***Synthesis of multivalent Man/Fuc-based glycomimetics targeted against DC-SIGN, MMR and Clec17a***.

Host Institution: Department of Chemistry, University of Milan (UMIL), Italy. https://chimica.unimi.it/it/home

Duration: 36 months, April 2027 - March 2030

Supervisor: Prof. Dr. Anna Bernardi. profile; profile – ORCID

Co-supervisors: Prof. Dr. Sara Sattin and Sarah Mazzotta (UMIL), Prof. Dr. Roland J. Pieters (University of Utrecht – UU, NL).
Progress Committee Members: Prof. Dr. Anna Bernardi (UMIL), Prof. Dr. Roland J. Pieters (UU), Dr. Ludovic Landemarre (Glycodiag).

DC8 PROJECT. The programme aims to generate chemical probes to elucidate the distinct roles of three C-type lectin receptors (DC-SIGN, MMR and Clec17a) in the tumor microenvironment, with the ultimate goal of modulating immune responses.

To this end, 1. DC8 will synthesize known, selective glycomimetics ligands for DC-SIGN and MMR and use them to prepare polyvalent glycoconjugates in collaboration with UU. 2. No glycomimetic ligand is known so-far for Clec17a: DC8 will collaborate with DC7 in the design of candidates and will synthesize the most promising ones. 3. DC8 will contribute to the biophysical evaluation of the ligands, in collaboration with UGA. The functional immunological evaluation will be carried out by UGA (DC10).

PLANNED SECONDMENTS. 1. Utrecht University (Prof. Dr. Roland J. Pieters): DC8 will synthesize multivalent presentations of the ligands based on polyglycerol scaffolds. 2. Université Grenoble Alpes (Prof. Dr. Franck Fieschi): DC8 will perform SPR interaction assays to screen the polyvalent constructs and the newly designed Clec17a ligands.

LLIMIT is to date under the condition that the Grant Agreement is signed

PhD School enrolment: PhD Course in Chemistry at the University of Milan, https://phdchemistry.unimi.it/

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 and anna.bernardi@unimi.it 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://pubs.acs.org/jmcmar/article/68/21/22530/5235086/Increasing-the-Chemical-Space-of-L-SIGN-Specific,
- Copy of the valid ID card or Passport.

Please use the subject line "*Application for DC8 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 Chemistry, Medicinal Chemistry or related fields,
- Experience in synthetic chemistry, carbohydrate chemistry, medicinal 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/.