Call for PhD 14 fellowship (DC14)
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 chemistry and pharmaceutical sciences, 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.

DC14 PROJECT TITLE. Siglec-8 preparation and biochemical and biophysical evaluation of antagonists.

Host Institution: Department of Pharmaceutical Sciences, Molecular Pharmacy Group, University of Basel (UNIBAS), Switzerland. https://www.pharma.unibas.ch

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

Supervisor: Prof. Dr. Daniel Ricklin

Co-supervisors: PD Dr. Said Rabbani (UNIBAS, CH), Prof. Dr. Franck. Fieschi (Université Grenoble Alpes – UGA, FR), Prof. Dr. Jonathan Cramer (University of Düsseldorf, Germany, UDUS).

Progress Committee Members: PD Dr. Said Rabbani, Prof. Dr. Jonathan Cramer (University of Düsseldorf, Germany, UDUS), Prof. Dr. Franck Fieschi (UGA), Dr. Martin Stieler (Bimovis).

DC14 PROJECT. The objective of this project is to establish a comprehensive structural and functional characterization of novel, rationally designed glycomimetic ligands of the immune lectin Siglec-8**.** First, DC14 will prepare recombinant Siglec-8 and determine the biochemical and biophysical drug-target interaction properties of Siglec-8 ligands by quantifying binding affinity, kinetics and thermodynamics. Second, a structural analysis of lead compounds, by co-crystallization and/or cryo-EM, will be performed during a short secondment in collaboration with Bimovis and the University of Grenoble, France, to elucidate their binding mode for the target Siglec-8. Third, DC14 will define the biological consequences of these interactions on immune response modulation. Fourth, DC14 will employ cell-based assays to investigate how Siglec-8 antagonists modulate downstream signaling pathways and regulate specific biological processes. Part of this work will be performed during a short secondment in collaboration with University of Düsseldorf, Germany. Integrating molecular mechanism with cellular function will clarify the role of Siglec-8 ligands in pathological situations and provide a mechanistic foundation for the rational design of novel immune-modulating therapeutics.

PLANNED SECONDMENTS. 1. Université Grenoble Alpes (Prof. Dr. Franck Fieschi) and Bimovis, Munich, (Dr. Martin Stieler): DC14 will perform the co-crystallization and/or Cryo-EM of Siglec-8 with lead compounds to reveal the target-binding mode of select lead compounds. **2**. University of Düsseldorf, Germany (Prof. Dr. Jonathan Cramer & Prof. Dr. Philipp Lang): DC14 will investigate in cell-based assay how Siglec-8 antagonists modulate downstream signaling pathways and affect specific biological processes**.**

PhD School enrolment: PhD Program for Pharmaceutical Sciences at the University of Basel. https://pharma.unibas.ch/en/education/phd/translate-to-english-phd-program-for-pharmaceutical-sciences/

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://onlinelibrary.wiley.com/doi/10.1002/anie.202314280,
- Copy of the valid ID card or Passport.

Please use the subject line "*Application for DC14 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 Pharmaceutical Sciences, Biochemistry, Chemical Biology, or a related field
- Experience in biochemistry, molecular biology, and biophysical interaction analysis is an advantage,
- Good command of English, both spoken and written,
- Team player with proactive attitude.

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

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