

# PhD position in Dortmund, Germany within RepliFate, a Marie Skłodowska-Curie ITN network and Lead Discovery Center GmbH



## RepliFate

The RepliFate project is a Horizon 2021 MSCA-ITN-ETN project, providing innovative education in the field of DNA replication, cell fate and cancer.

RepliFate is a collaborative action and offers an international multidisciplinary research and training environment based on an integrated network of excellent, complementary, and integrated academic groups and SMEs. Represented in RepliFate are several aspects of DNA replication, from molecular and cellular mechanisms to specific inhibitors as potential drugs.

In RepliFate, 10 Early-Stage Researchers (ESRs) will be involved in a dynamic and diverse network collaborating with academic partners but also with SMEs, providing a focus towards applications for human health. The ESRs will benefit from the expertise of the academic partners and SMEs, thus becoming trained in specific areas of research, and in the practice of international cooperation.

Each of the 10 ESR candidates will work on an individual research project in collaboration with other ESRs of RepliFate's network. The offered positions will last three years and will allow all the recruited researchers to be enrolled in local PhD schools and participate in an exciting multidisciplinary research programme that will enhance their career perspectives in both the academic and non-academic sector. In addition to their individual projects, all ESRs will benefit from a dedicated training programme consisting of local and network wide training activities aimed at improving their scientific knowledge and transferable skills.

RepliFate is composed of 10 European beneficiaries and associated partners from 8 different countries and is coordinated by CBMSO, Spain.

## Project background

RepliFate will investigate the mechanisms through which changes in DNA replication influence cell identity, respond to different kinds of stress, and prevent malignant transformation. We will put DNA replication at the centre stage as the driver of these processes and not a mere bystander, using recent technological to better understand the role of DNA replication as a determinant of cell fate and cancer. RepliFate links academia with industry and society and will provide new opportunities for innovation in one of the main societal challenges in human health, cancer. We will pave the way for the development of innovative cancer treatments exploring the links between DNA replication and cell fate, the immune response and unscheduled cell proliferation.

The RepliFate consortium includes experts in Biochemistry, Molecular Biology, Medicinal Chemistry, Structural Biology, and Drug Discovery. RepliFate's approach is based on combining the use of the most suitable methods and model systems to tackle the specific questions in the project:

- (i) cell-free extracts to define the molecular mechanistic details of modifiers and targets of the replicative stress responses
- (ii) early embryos to unveil how modifications of the replication programme impact the first cellular transitions
- (iii) mouse models of cancer to target replication proteins in a physiological setting, with a variety of cutting-edge technologies to address the regulation of replication dynamics and the functional implications of our findings. The integration of this orthogonal approaches will reveal how DNA replication maintains or modifies chromatin dynamics and cell homeostasis.

LDC is partner of the RepliFate network and is offering a

## PhD position in Dortmund, Germany, to begin in January 2023, as part of the RepliFate ITN network:

The overall goal of this PhD project is the Discovery of small molecule modulators of selected targets relevant in DNA replication (e.g. PICH1 helicase, TRIP12 ligase). The applicant will express and purify the recombinant proteins, will develop primary assays suitable for High-Throughput-Screening of a large small-molecule compound library, and will identify modulators of the respective target proteins. Hit compounds will be characterized and validated with orthogonal and secondary assays. The developed modulators will be used to study the cellular functions of the target protein and the underlying molecular mechanisms and will serve as drug precursors.

The applicant will be additionally trained in project management at the interface of academic and pharmaceutical research, in patent searches and protection of intellectual property.

### Lead Discovery Center GmbH

We are a translational drug research company that understands and works closely with both hemispheres: academia and industry. Many of us benefit from a scientific background combined with many years' experiences in the biotech and pharma industries. With our headquarters at the BioMedizinZentrum Dortmund, Germany, we cover all core drug research disciplines, in particular medical chemistry, assay development and screening, biology, pharmacology, and project management.

See also: [www.lead-discovery.de](http://www.lead-discovery.de)

### Benefits:

- 3-year full-time employment contract in accordance with the Marie Skłodowska-Curie Action regulations for Early-Stage Researchers
- Access to state-of-the-art research and supervision by recognized experts
- Participation in network-wide training activities, schools and conferences
- Secondments periods at other network partners' labs

### Candidates must comply with the following requirements:

- Master of Science in Molecular Biology or Biochemistry
- Have not been resident or have conducted main activity (studies, work, etc.) for more than 12 months within the last three years in the country where the project will take place
- Be in the first four years of their research career (measured from the date they have obtained a degree that allows them to enrol in a PhD program)
- Be fluent in English

### Candidates are invited to send the following documents:

- Motivation letter (max. two pages)
- CV including the details of education/qualifications, work experience, language skills and other relevant skills; indication of at least two Scientists for reference letters;
- Certified/signed copy of a recent transcript of exams taken with relative mark. A certified/signed copy of Master of Science certificate or a letter from the Head of the degree course stating that the student is going to finish before the end of 2022.

Applicants can select up to two (2) projects within the consortium, indicating the order of preference.

All applications will be checked for eligibility (in particular, the adherence to the mobility rule). Shortlisted candidates will be invited for an interview. Candidates will be notified of the outcome. Start of employment is foreseen March – June 2023.

Deadline for applications is January 15th 2023.

The application process will be centralized through RepliFate. For more information see <https://replifate.eu/>.

**Please send your documents to: [application@lead-discovery.de](mailto:application@lead-discovery.de)**