

2 Doctoral candidate (PhD Students) positions in the field of Cell Biology

Employer: **Systasy Bioscience GmbH**
Location: **Munich, Germany**
Research Field: **Neuroscience, Neurobiology**
Application Deadline: **1st November 2023**
Research Field: **Biological sciences » Biology**
Education Level: **Master Degree or equivalent**

Systasy Bioscience GmbH, a Munich-based biotech company, uses advanced barcoding technologies and next-generation disease modeling to facilitate drug discovery in complex diseases. Systasy's innovative and proprietary technologies provide a fast and cost-effective approach to mapping disease pathways from the cellular level to the patient cohort level to enable next-generation medicine. Systasy's barcoding technology uses molecular barcodes to track different entities within one experiment. These entities include activities of targets and cellular pathways, cell types and patient material, as well as technical features such as biological replicates, wells, and plates. When applied to next-generation stem cell-derived disease models, Systasy's barcoded and cell-based profiling assays enable multiplexed and scalable drug screening in early-stage drug discovery.

Systasy Bioscience GmbH is pleased to announce that two PhD positions will be available from 1 January 2024 or as soon as possible thereafter. The application deadline is 1st November 2023.

Applications are invited for the three-year fellowship from applicants who hold or expect to hold a master's degree in a field relevant to the following PhD projects. Successful applicants will be enrolled in the Munich Medical Research School of the LMU Munich, Germany.

Project descriptions

We are looking for two driven and ambitious persons, with an ability to work independently and in collaboration with other research groups. The candidates should have a strong interest in pursuing a PhD degree in the field of cell biology with a focus on intrinsically disordered proteins (IDPs).

The positions are part of the Horizon Europe-funded Marie Skłodowska-Curie Action (MSCA) doctoral network called IDPro, which focuses on Intrinsically Disordered Proteins in Health and Disease: Mechanisms, Molecular Context and Opportunities for Drug Discovery. [IDPro](#) is an exceptional network of nine beneficiaries (eight academic and one industrial) and five partner organizations (four industrial and three academic) from seven different countries, with excellent track records in protein research and supervision. Together, we will train eleven doctoral candidates, with distinct competencies of relevance for the field of intrinsically disordered proteins, to secure future scientific breakthroughs in a rapidly developing field. In particular, we will investigate how disordered proteins interact, how interaction is affected by disease-related mutations, and assess how disordered proteins cause aberrant cellular signaling in relevant human disease models. Furthermore, we will design ligands that can be further developed into molecular probes, which could represent lead structures for the development of drugs. The goal of IDPro is to strengthen an emerging field in biology and medicine with implications for both academia and industry in the European union.

In [Project 1](#), the PhD candidate will establish an array of cell-based assays for IDPs in human cell lines. Assays will use Systasy's splitSENSOR (in the literature also known as split TEV) and EXTassay barcoding technologies to enable a multiplexed readout to assess both the association to key interaction partners and the effect on physiological signaling pathways. splitSENSOR and EXTassay barcoding technologies are established at our site and were combined in a so-called *targetProfiler* approach before (see [Galinski et al., 2018, Sci Reports](#) as reference). Examples of IDPs to be selected are, but not limited to, amyloid precursor protein (APP), γ -secretase/presenilin, α -synuclein, and calmodulin kinase II. Furthermore, the candidate will profile interactions for selectivity and specificity, and will assess IDP-directed antagonists in these assays.

In [Project 2](#), the PhD candidate will establish an array of validated CRISPR mediated genetic perturbation tools to assess a gain- and loss-of-function analysis of IDP interactions that are relevant to the regulation of neuronal signaling and cell fate. To do this, the PhD candidate will e.g., apply CRISPR inhibition (or knockout) directed on IDP candidates in a human disease model and combine this technique with a multi-pathway profiling assay (using company-owned barcoded *pathwayProfiler* assay, see [Herholt et al., 2018, Sci Reports](#) as reference) to identify affected targets and pathways (e.g., including cell fate, cell stress, immune signaling, metabolism, pluripotency, neuronal signaling). Data obtained from the pathway profiling will be complemented by (single cell) RNA-seq analyses.

Required qualifications

The position is available for a three-year period for applicants holding a relevant master's degree.

To be eligible, the candidate must

- hold a Master's degree or equivalent (240 ECTS) in molecular biology, cell biology, biochemistry, structural biology or similar, providing basic theoretical and practical knowledge, prior to the starting date.
- be fluent in written and spoken English. The candidate is expected to take the initiative driving the project, but also to collaborate with the other members of the doctoral network. Emphasis will be given on personal qualities, including analytical capacity, accuracy, flexibility and collaborative skills.
- This MSCA Doctoral Network grant aims to promote mobility within the EU. Applicants must not have resided or carried out their main activity (work, studies, etc.) in Germany for more than 12 months in the 36 months immediately before their date of recruitment.

Preferred qualifications

We are looking for highly motivated individuals with a background in cell biology and molecular biology, ideally with some experience in R language, pharmacology and/or molecular cloning.

General job description

Your main responsibilities as a PhD fellow at Systasy Bioscience GmbH will be to:

- manage and carry out your research project
- attend PhD courses
- write scientific articles and your PhD thesis
- participate in national and international congresses and scientific meetings
- stay at an external research institution within the network
- teach and disseminate your research

Key criteria for the assessment of applicants

- Professional qualifications relevant to the PhD programme
- Relevant work experience
- Previous publications
- The grade point average achieved
- Other professional activities
- Language skills
- The successful applicant is also required to be enterprising and to possess good communications skills

Questions

For further information, applicants may contact the supervisor PD Dr. Michael Wehr (wehr@systasy.de), co-founder and chief technical officer (CTO) of Systasy Bioscience GmbH, Munich, Germany, and Head of Research Group Cell Signalling, Department of Psychiatry and Psychotherapy, LMU Munich, Germany.

How to apply

Applicants are requested to submit their application electronically via E-Mail to jobs@systasy.de (combined in one pdf file) including:

- Cover letter: Motivation Letter stating the interest in and qualifications for the project (max. one page)
- CV incl. education, work/research experience, language skills and other skills relevant for the position.
- A certified/signed copy of Master of Science certificate (including grade transcripts for master's degree)
- List of publications with description of the personal contributions to each work, and if no publications exist, a pdf copy of the Masters' thesis.
- Two letters of recommendation, including contact details from referees (phone number and e-mail address).

Deadline for applications: 1st November 2023. Please note that only online applications will be accepted.

Systasy Bioscience GmbH would like to encourage everyone interested in this position to apply, regardless of their personal background.

In return you will get...

- ✚ Multilingual and international character.
- ✚ Modern institution with a personal atmosphere.
- ✚ High-quality equipment.
- ✚ Close ties to the business world. A unique urban site with excellent infrastructure.
- ✚ Cooperation with european institutions, innovative worldwide known companies, and with numerous academic partners, and hospitals such as the hospital of the Ludwig-Maximilians-University (LMU) Munich, one of the top hospitals in Europe.