FUNCTIONAL DRUG DISCOVERY

(ref. ZAP-2022-12)

Last modification : Wednesday, February 16, 2022

The functional drug discovery field essentially contains two complementary approaches, i.e. phenotypic drug discovery and target-based drug discovery. Phenotypic drug discovery continues to yield promising drug candidates especially for diseases with partially understood mechanistic complexity. A resurgence of phenotypic drug discovery over the past decade has resulted in several lifesaving first-in-class drugs. With the ever-increasing identification and molecular characterization of novel druggable targets, target-based drug discovery is positioned to boost discovery programs across all therapeutic modalities, resulting in numerous best-in-class drugs. Innovation in functional drug discovery technologies holds promise for boosting future drug discovery programs across academic research institutes and pharmaceutical industry. Hence continuing investment in innovative academic research in the field of drug discovery is an important pillar of the strategic vision of the KU Leuven Department of Pharmaceutical and Pharmacological Sciences (DPPS) over the next decade. DPPS is highly ranked regarding its quality of research and education and has an extended collaborative national and international network both in academia and industry. Further to the upcoming retirement of several professors conducting research in the broader drug discovery field, DPPS wants to expand its team with an excellent junior professor ('ZAP') to lead a research team focusing on innovation in the development and application of approaches for functional drug discovery. In line with the departmental policy plan, this position is intended to fit in a larger division within DPPS hosting several teams conducting cutting-edge research related to the biological aspects of the drug discovery field. This division obviously closely collaborates with the Medicinal Chemistry division (also part of REGA institute) of DPPS, which focuses on the chemical aspects of drug discovery. Over the past decades, several laboratories within DPPS have built an internationally recognized reputation in various aspects of drug discovery and acquired state-of-the-art expertise and infrastructure. This includes a fully operational and automated zebrafish facility, with knowhow to perform TOL2 transgenesis, CRISPR/Cas9 genome editing, behavioral and electrophysiological measurements, and high throughput screening using morpholino's and small molecules for drug discovery purposes. Furthermore, state-of-the-art instrumentation is available to test bioactive compounds isolated from animals, plants and microorganisms. This

includes a Xenopus laevis oocyte expression system, manual and automated semi-high throughput voltage clamp setups, preparative separation devices as well as a protein sequencer. Over the years a unique library of cloned voltage- and ligand gated ion channels and G-protein-coupled receptors has been collected. The discovery and design domain of DPPS also comprises a nanobody discovery platform, equipment for structural biology research, gene transfer and gene editing technology, organoid based drug discovery and target-based drug discovery for leukemia, Rett Syndrome and an HIV cure. In addition, a broad range of instruments and infrastructure is available in core facilities and through collaborations across the Biomedical Sciences campus.
Website unit

Duties

Research

- You will initiate and perform cutting-edge research in the field of functional drug discovery (phenotypic and/or target-based), thereby having the opportunity to rely on existing drug discovery expertise and infrastructure within the department (see description above).
- You have particular attention to the development and exploration of emerging technologies in the drug discovery field.
- You will publish your results in high impact international journals and attract competitive research funds.
- You will collaborate with members of the other laboratories involved in drug discovery research.
- You will interact in the multidisciplinary research environment consisting of the Department of Pharmaceutical and Pharmacological Sciences and the Biomedical Sciences Group.
- You will supervise (inter)national master and PhD students.
- You are able to identify and pursue potential valorization of your research results in cooperation with a valorization manager and the technology transfer unit Leuven Research and Development.

Education

Your teaching duties within the bachelor-master-postgraduate curriculum will contain both lectures and practical exercises. The teaching assignment load will gradually increase, depending on your qualifications. In your further academic career, due attention will be given to maintain an optimal equilibrium between research and teaching. You will contribute to the overall educational project of KU Leuven by providing high-level training, guidance and supervision of bachelor/master and PhD students in the lab in the framework of their thesis. You

will develop your teaching skills in accordance with the KU Leuven vision on activating and research-based education and you will actively make use of professionalization-of-education opportunities offered by the faculty and the university.

Service

You will take responsibility in management tasks of the department and the faculty and in scientific and/or social communities. The very high density of pharmaceutical and biotechnological companies in Flanders provides unique opportunities for industry collaboration.

Profile

- You have a PhD in either Pharmaceutical Sciences, Medical or Biomedical Sciences, Biochemistry, Biology, Bioscience engineering or equivalent.
- You combine an in-depth biomedical expertise with a technical expertise in the field of functional drug discovery. Experience with one or more of the existing drug discovery platforms within the department, with phenotypic and/or target-based drug discovery, as well as assay validation is a plus.
- Upon appointment, you have at least 3 years of postdoctoral experience, and expertise with drug discovery programmes in an academic and/or industry context.
- You have a strong research record and excellent teaching and training skills, allowing you to contribute to the research output of the laboratory and the department and to the quality of its educational program.
- The high quality of your research should be evidenced by high-impact first and/or last author publications in international peer-reviewed journals. International research experience is required.
- You have good organizational skills and you have a team-player attitude. You have leadership capacity within the university context.
- Proficiency in English is required.
  The official language used at KU Leuven is Dutch. If you do not speak Dutch (or do not speak it well) at the start of employment, KU Leuven will provide language training to enable you to take part in meetings.
  Before teaching courses in Dutch or English, you will be given the opportunity to learn Dutch, respectively English, to the required standard.

Offer

We are offering a full-time employment in an intellectually challenging environment. KU Leuven is a research-intensive, internationally oriented university that carries

out both fundamental and applied scientific research. It is highly inter- and multi-disciplinary focused and strives for international excellence. In this regard, it actively works together with research partners in Belgium and abroad. It provides its students with an academic education that is based on high-quality scientific research.

You will have access to the core facilities of the University's biomed group, including biomolecular and cell and tissue imaging, next generation sequencing and bioinformatics consulting, and the laboratory animal center.

The proximity of the University hospital of Leuven (UZ Leuven), which is located on the same campus, will allow you to setup translational research lines with clinical experts. The DPPS has existing networks of collaborations with other academic research groups at KU Leuven and abroad for imaging, PK analysis, medicinal chemistry, as well as close collaborations with the University Hospital.

You will work in Leuven, a historic, dynamic, and lively city located in the heart of Belgium, within 20 minutes from Brussels, the capital of the European Union, and less than two hours from Paris, London and Amsterdam.

Depending on your record and qualifications, you will be appointed to or tenured in one of the grades of the senior academic staff: assistant professor, associate professor, professor or full professor. In principle, junior researchers are appointed as assistant professor on the tenure track for a period of 5 years; after this period and a positive evaluation, they are permanently appointed (or tenured) as an associate professor.

KU Leuven is well set to welcome foreign professors and their family and provides practical support with regard to immigration & administration, housing, childcare, learning Dutch, partner career coaching, ...

To facilitate scientific onboarding and accelerate research in the first phase a starting grant of 100.000 euro is offered to new professors appointed for at least 50% that do not yet have substantial research funding.

Interested?

For more information please contact Prof. dr. Eveline Lescrinier, tel.: +32 16 32 26 38, mail: eveline.lescrinier@kuleuven.be. For problems with online applying, please contact solliciteren@kuleuven.be.

KU Leuven places great importance on research integrity and ethical conduct and will therefore ask you to sign an integrity statement upon appointment.
You can apply for this job no later than June 27, 2022 via the online application tool
KU Leuven seeks to foster an environment where all talents can flourish, regardless of gender, age, cultural background, nationality or impairments. If you have any questions relating to accessibility or support, please contact us at diversiteit.HR@kuleuven.be.