Leiden Academic Centre for Drug Research

PhD positions

Scholarship	CSC
Application deadline	Please inquire with application contact
Admission criteria	1. Good command of English (TOEFL >= 65, IELTS >= 6). 2. MSc degree in Pharmaceutical Sciences, Chemistry, or Biology (or related fields). 3. Specific requirements vary with topic and supervisor.

PhD Programme (full/joint)	Toppics offered	Application contact
1 * Full: LACDR	**Exploration of G Protein-Coupled Receptors as a Drug Target in Cancer Treatment.** Recently a role for GPCRs in the initiation and development of cancer was revealed. In this project exploitation of this highly druggable class of proteins as targets in cancer treatment is investigated using a combination of bioinformatics, cheminformatics, and 'wet lab' experimental techniques.	Dr. G.J.P. van Westen gerard@lacdr.leidenuniv.nl
1 * Full: LACDR 1 * Joint: LACDR / Chemistry	**Novel receptor concepts to target G protein-coupled receptors.** The most significant drug targets today are GPCRs, as at least 30% of the current drugs target these proteins. However, attrition rates of candidate drugs in clinical trials are disappointingly high. Hence, it is thought that a better understanding of the drug-target interaction is needed, with the prospect of novel concepts for drug action and, hopefully, better chances in later phases of the drug discovery process.	Dr. L. Heitman l.h.heitman@lacdr.leidenuniv.nl Dr. M van der Stelt
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1 * Full: LACDR	**Computational analysis of tumor cell heterogeneity from live imaging data:** 1) Create and apply image analysis quantification tools to extract dynamical measurements on cell cycle phase, mitosis, morphology and migration from tumor cell live imaging data. 2) Quantify cell behaviour over time and study heritability of parameters (e.g. cell cycle). 3) Quantify impact of drugs at single-cell level.	Dr. J. Beltman J.B.Beltman@lacdr.leidenuniv.nl

Universiteit Leiden
The Netherlands

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1 * Full: LACDR	Formulation and analytical characterization of cell based medicinal products. CBMPs are biologics that are rapidly gaining importance in the treatment of chronic and life-threatening diseases, for which often no other treatment options are available. The aim of this project is to develop DMSO-free formulations of CBMPs, using currently available and new analytical tools to investigate cell behavior and stability.	Dr. W. Jiskoot w.jiskoot@lacdr.leidenuniv.nl
1 * Full: LACDR	Immune-regulation of atherosclerosis by vaccine induced cytotoxic T-lymphocytes. Recent work by our group and others has revealed that CD8+ T-cells play a protective role during the development of atherosclerosis. This project will attempt to identify the biological targets of protective CD8 T-cells and will attempt to translate these findings into the development of an atheroprotective vaccine.	Dr. B.A. Slutter b.a.slutter@lacdr.leidenuniv.nl
1 * Full: LACDR	Systems immunology: probing metabolic reprograming of immune and cancer cells. Two PhD students on an ambitious project at the interface of metabolomics and immunology, the most basic requirements for survival and highly integrated. Emerging evidences indicate the capacity of cytokines in controlling the metabolic states of innate and adaptive immune cells. On the other hand, metabolic cues are known to control differentiation and function of innate and adaptive immune cells, and to modulate angiogenesis (afferent and efferent arm of an immune response). Here we systematically probe the cross talks between metabolic pathway and signaling pathways that underlie immune cell functions in the cancer context. Combining experimental and computational methods: including immunological characterization methods, mass spectrometry, imaging techniques, and possibly also microfabrication.	Dr. A. Mashaghi mashaghi@gmail.com
1 * Full: LACDR	CNS distribution of biologicals (by In vivo CNS microdialysis and other techniques): towards a generic brain distribution model for biologicals.	Dr. E.C.M. de Lange ecmdelange@lacdr.leidenuniv.nl
1 * Full: LACDR	Computational systems pharmacology modeling for drug adverse event prediction. The aim of this project is to develop computational systems pharmacology models that predict the risk of drug- induced toxicities. We will focus on prediction of adverse events induced by anti-cancer drugs such as cardiotoxicity, peripheral neuropathy and neutropenia.	Dr. J.G.C. van Hasselt coen.vanhasselt@lacdr.leidenuniv.nl
1 * Full: LACDR	Systems pharmacology of anti-infective drugs. This project will focus on three aspects of computational anti-infective drug development and treatment optimization: i) identification of rational combination dosing regimens that limit resistance development; ii) improving our understanding of the contribution of the (impaired) immune response during drug treatment; iii) drug treatment optimization of dose regimens in special patient populations.	Dr. J.G.C. van Hasselt coen.vanhasselt@lacdr.leidenuniv.nl
1 * Full: LACDR	Metabolic plasticity of cancer cells in control of tumor growth and migration. Uncontrolled growth of tumor cells combined with their capacity to travel and colonize distant organs causes high mortality rates in cancer patients. Here we will explore how the balance between oxidative phosphorylation and glycolysis modulates the response of cancer cells to environmental cues and controls growth and migration.	Dr. S. Le Devedec s.e.ledevedec@lacdr.leidenuniv.nl
1 * Full: LACDR	Metabolomics, organ-on-a-chip, Parkinson, translational medicine	Dr. A. Harms a.c.harms@lacdr.leidenuniv.nl
1 * Full: LACDR	Metabolomics, organ-on-a-chip, breast cancer, personalized medicine	Dr. A. Harms a.c.harms@lacdr.leidenuniv.nl