Two postdoc positions in single-cell multi-omics to study stem cell and developmental biology (Ref. BAP-2020-72)

About the lab
The Laboratory of Cellular Reprogramming and Epigenetic Regulation headed by Vincent Pasque is located at the University Hospital Campus, Leuven, Belgium. The lab performs fundamental research in the area of stem cell and developmental biology. The lab is currently leveraging the exciting development of new single-cell omics technologies to increase our understanding of how cell identity is regulated during cellular reprogramming to pluripotency and early mammalian development. Through the new Leuven Single-Cell Omics Institute, the lab has access to the latest single-cell multi-omics technologies (scRNA-seq, scATAC-seq, scG&T-seq, scNMT-seq, CROP-seq, spatial transcriptomics, CYTOF).

The current focus of the lab is 1) to define how chromatin silencing is reversed during somatic cell reprogramming to induced pluripotent stem cells (iPS cells) and 2) to characterize how gene regulatory programs and cell fate decisions are regulated during early human development, with a particular interest in pluripotent stem cells. These fundamental questions have important implications for regenerative medicine because therapies based on pluripotent stem cell-derived cell products are moving into clinical trials, yet there is a need to better recapitulate developmental programs in a dish for cell replacement therapy and disease modelling purposes.

Selected Publications

Position
You will be responsible for leading and continuing exciting single-cell analysis research projects ongoing in the lab to characterize iPS cell reprogramming using scNMT-seq (position 1) and to define regulatory programs underlying the first cell fate decisions of human life using single-cell multi-omics, pluripotent stem cells and embryos, gene editing and synthetic biology (position 2). You will work collaboratively within and beyond the research team. You assist, supervise and mentor PhD students where needed. You plan, organize and troubleshoot your work independently, document and communicate your results professionally with colleagues within the team and with collaborators. You are involved in writing manuscripts, progress reports and grants.

Profile
Position 1: Single-cell multi-omics to understand iPS cell reprogramming
• Broad experience working with bioinformatics and good knowledge in next generation sequencing technologies and data analysis.
  Experience with single-cell sequencing is not required but an advantage. Wet lab skills in molecular and stem cell biology are a plus.

Position 2: Single-cell omics and pluripotent stem cells to understand the origins of human life
• Experience with cell culture and molecular biology. Experience with human pluripotent stem cells and genome editing is not required but an advantage. Experience with early mammalian development is a plus. Experience with next generation sequencing technologies is a plus

For both positions:
• You have a PhD degree in cell biology, bioinformatics, molecular biology or related field
• Knowledge of and competent working in programming languages and softwares (R, Python)
• You have at least 1 good first author publication or preprint
• You have a good command of spoken and written English
• Collegial/team player mentality, independence and problem-solving skills are expected

Offer
• Full-time contract for one year with possibility to extend up to 3 full years
• Opportunity to work on exciting high impact projects and make a good contribution to the stem cell biology field
• Access to state-of-the-art technologies and infrastructure
• You are encouraged and mentored to apply for a postdoctoral fellowship
• The position is immediately available
• A stimulating and collegial research environment where quality and integrity are stimulated
• Prospect of joining a young and motivated team with an outstanding network of collaborations
• Exceptional healthcare benefits. The University of Leuven is very international, close to Brussels, at the heart of Europe

Interested candidates are encouraged to contact Dr. Vincent Pasque (vincent.pasque@kuleuven.be) with cover letter, CV and the contact details of 3 references (including email addresses and phone numbers). The positions will be open until filled.

You can apply for this job no later than February 29, 2020 via the online application tool: https://www.kuleuven.be/personeel/jobsite/jobs/55549616