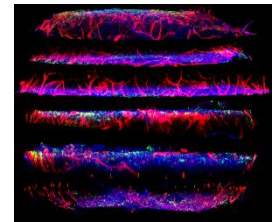


# Post-doctoral Bioinformatician for single cell transcriptomic analysis of stem cells

Level of employment / possible date of entry: 100 % - 01.02.2021

## Intro

A joint position is available within the laboratory for **Cell, Tissue and Organ engineering** ([www.bourginelab.com](http://www.bourginelab.com)) led by Paul Bourguine and the laboratory for **Human Neural Development** (<https://www.wcmm.lu.se/research/wcmm-researchers> and <https://in.ku.dk/research/agnete-kirkeby/>) led by Agnete Kirkeby. The Bourguine group is specialized in the generation of miniaturized bone organs recapitulating the bone and blood functions in human. The lab aims at compiling human-specific knowledge on tissue establishment towards developing innovative regenerative therapies. The Kirkeby group studies human brain development and neural subtype specification using stem cells. The group applies this knowledge for developing novel cell therapies as treatment for neurodegenerative diseases (e.g. Parkinson's Disease, Narcolepsy). As such, both laboratories target the understanding of cellular heterogeneity in engineered stem cell-derived tissues, for both fundamental and translational applications.



## Your position

The candidate will perform bioinformatic single cell RNAseq analysis from developing human skeletal and neural cells. The projects will involve the development and integration of several algorithms (e.g. SCENIC, SPRING, Pseudotime, RNA velocity) towards studying cell/tissue subtype specification, lineage trajectories, cell differentiation/maturation. Integration of genomics, proteomics and spatial transcriptomics data will also be considered. If interested, the candidate may have the opportunity to be involved in the ex vivo fabrication of human tissues/organs. **The position is funded by an ERC Starting grant to the Bourguine lab.**



## Your profile

You will be part of a friendly but highly competitive/innovative environment. We are thus seeking for a candidate with a high but healthy ambition to discover! You possess a PhD degree in bioinformatics, data analytics or equivalent, and have experience with single cell RNAseq. You are interested in developing new algorithms and integrate those for the interpretation of complex datasets. The capacity to interpret, connect and visualize complex data is crucial. Background in skeletal/brain development, stem cells or hematopoiesis is a plus. Excellent speaking/writing English level is a requirement.

## The institute

You will be part of the Wallenberg Center in Molecular Medicine and the Stem Cell Center within Lund University (Sweden). You will benefit of state-of-the-art services/equipment and be most welcome in a young, friendly and dynamic environment. The university founded in 1666 is the first Swedish University and is repeatedly ranked among the world's top 100 universities. With a direct connection to Copenhagen International airport (30min), Lund is an accessible city and a European hub for research.



### **Application / Contact**

Candidates should send a CV, a short summary of research experience, and contact information for referees to: [agnete.kirkeby@med.lu.se](mailto:agnete.kirkeby@med.lu.se) and [paul.bourgine@med.lu.se](mailto:paul.bourgine@med.lu.se)

### **Supporting publications:**

- <https://www.nature.com/articles/s41587-020-0525-0?draft=collection>

- <https://www.nature.com/articles/s41467-020-16225-5>

- [https://www.cell.com/iscience/pdf/S2589-0042\(19\)30284-6.pdf](https://www.cell.com/iscience/pdf/S2589-0042(19)30284-6.pdf)

- [https://www.cell.com/trends/molecular-medicine/fulltext/S1471-4914\(20\)30044-7](https://www.cell.com/trends/molecular-medicine/fulltext/S1471-4914(20)30044-7)