Postdoc Position: Technology-driven Research in Biomedicine

*We are recruiting an ambitious postdoc who wants to **develop and apply cutting-edge technology for biomedical research** and for advancing diagnostics/therapy in cancer and other diseases. Key areas of interest include cell-based therapy (CAR T and beyond), sequencing technology, CRISPR editing/screening, advanced microscopy, targeted drug delivery, advanced antibody/aptamer therapeutics, systems immunology, and synthetic biology.*

*Our group at the **CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences in Vienna** combines wet-lab biology (epigenomics, single-cell sequencing, drugs & CRISPR screening, imaging, etc.) with bioinformatics and artificial intelligence. We work closely with physicians at the Medical University of Vienna to advance precision medicine.*

The Project

These are exciting times for technology-driven research in biomedicine, with many opportunities for breakthrough technologies. We are broadly interested in technology development that combine e.g., wet-lab and computational methods, sequencing and imaging, diagnostics and devices, small molecules and biologicals, synthetic biology and cell-based therapies. If you have a project in mind, we would be happy to discuss. If not, here are a few potential directions: (i) CRISPR single-cell sequencing: Building upon our CROP-seq technology (Datlinger et al. 2017 Nature Methods), we develop assays for massive-scale functional biology. (ii) Synthetic cancer biology: We use (epi-)genome editing to build artificial cancer cells and engineer killer cells that specifically destroy dangerous cells. (iii) Droplet devices: We are interested in scalable microfluidics that combine drugs, imaging, and sequencing; (iv) Targeted delivery: We explore new ways to deliver CRISPR *in vivo* to the right cells.

The Candidate

We are looking for candidates who want to pursue groundbreaking research and advance their scientific career. A typical background could be in molecular biology, biomedical research, bioengineering, or related areas (cell-based therapies, functional genomics, etc.). A keen interest in interdisciplinary collaboration is a plus. We are fully equipped and experienced with wet-lab and computational work, allowing candidates to get the best of both worlds and establish a unique skill set that will allow them to combine both wet-lab and bioinformatics in their future lab.

The Lab (http://epigenomics.cemm.oeaw.ac.at/)

The Medical Epigenomics Lab at CeMM pursues an interdisciplinary and highly collaborative research program aimed at understanding the cancer epigenome and establishing its utility for precision medicine. The lab is internationally well-connected and active in several fields:

- *Epigenomics*. Many diseases show widespread deregulation of epigenetic cell states. As members of the Human Cell Atlas and the International Human Epigenome Consortium, we use epigenome sequencing to dissect the epigenetic basis of cancer and immunity.
- *Technology*. Groundbreaking biomedical research is often driven by new technologies. Our lab is therefore heavily invested into technology development, including single-cell sequencing, CRISPR screens, and epigenome editing.

- *Bioinformatics*. New algorithms and advanced computational methods allow us to infer epigenetic cell states from large datasets, in order to reconstruct the epigenetic landscape of cellular differentiation and complex diseases.
- *Diagnostics*. New technologies (genome sequencing, mobile devices, etc.) provide important information for personalized medicine. We develop and validate assays and algorithms for translating the value of digital medicine into routine clinical practice.

The Principal Investigator (https://scholar.google.com/citations?user=9qSsTcIAAAAJ)

Christoph Bock is a principal investigator at CeMM. His research focuses on epigenetics, bioinformatics, and high-throughput technology (single-cell sequencing, CRISPR) in the context of personalized medicine. He is also a guest professor at the Medical University of Vienna, scientific coordinator of the Biomedical Sequencing Facility at CeMM, and adjunct group leader for bioinformatics at the Max Planck Institute for Informatics. He has been a principal investigator of the BLUEPRINT project (in the International Human Epigenome Consortium), and he co-founded Genom Austria, a citizen science project that is the Austrian partner in the International Network of Personal Genome Projects. He is a member of the Young Academy of the Austrian Academy of Sciences (since 2017) and recipient of several major research awards, including the Max Planck Society's Otto Hahn Medal (2009), a New Frontier Group grant by the Austrian Academy of Sciences (2015-2020), an ERC Starting Grant (2016-2021), and the Overton Prize of the International Society of Computational Biology (2017).

The Institute (http://www.cemm.at/)

CeMM is an international research institute of the Austrian Academy of Sciences and a founding member of EU-LIFE. It has an outstanding track record of top-notch science (last few years: >10 papers in Nature/Cell/Science/NEJM, >25 papers in Nature/Cell sister journals) and medical translation. With just over a hundred researchers, CeMM provides a truly collaborative and personal environment, while maintaining critical mass and all relevant technologies. Research at CeMM focuses on cancer, inflammation, and immune disorders. CeMM is located at the center of one of the largest medical campuses in Europe, within walking distance of Vienna's historical city center. A study by "The Scientist" **placed CeMM among the top-5 best places to work in academia world-wide** (http://the-scientist.com/2012/08/01/best-places-to-work-academia-2012). Vienna is frequently ranked the world's best city to live. It is a United Nations city with a large English-speaking community. The official language at CeMM is English, and more than 40 different nationalities are represented at the institute. CeMM promotes equal opportunity and harbors a mix of different talents, backgrounds, competences, and interests. Postdocs at CeMM are paid according to the Austrian Science Fund's salary scheme, which amounts to an annual gross salary slightly above EUR 50,000.

*Please apply online (*https://cemm.jobbase.io/job/o3e97zc9*) with cover letter, CV, academic transcripts, and contact details of three referees. Applications will be reviewed on a rolling basis. Any application received by 21 January 2019 will be considered. Start dates are flexible.*

A full PDF version of this job posting is available from the following URL: http://www.medical-epigenomics.org/files/Postdoc_Biomedical_Technology_Development.pdf

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Additional information

Location	**Vienna**
Position type	**Full-time employee**
Start of work	**Mar 1, 2019**

Responsible

Christoph Bock