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Certificate of employment – Simon Heumos

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To Whom It May Concern:

The Quantitative Biology Center (QBiC) is a central unit of the University of Tübingen, its Medical Faculty and the Max Planck Institute for Developmental Biology. We are providing bioinformatics, data and project management services to academic and non-academic customers. Simon Heumos (born May 13th, 1990) has been working in my department as bioinformatics scientist from 01.06.2017 to 31.05.2019.

During this time he has become a key member of my group, being involved in many aspects of our center. His job role directly addressed two key areas at QBiC: he was member of the bioinformatics support and project management (BioPM) and operated additional in a bridge function to the infrastructure and scientific software team.

His tasks included: the management of the full project life cycle of service and research projects. He supported projects from the initial discussion, over quote generation and data analysis to the final reporting. As part of his project management tasks, he was involved in customer communications, scientific consulting and the compilation of scientific manuscripts.

Towards the end of his employment he became the vice-coordinator of the BioPM team. His scientific projects included the full range of omics data analysis, as well as the compilation of highly standardized and reproducible bioinformatics pipelines. He was involved in the supervision of student projects. His manuscripts were published in internally renowned journals including *Frontiers in Immunology* and *Nature Scientific Reports*.

As an experienced Java, Python developer, he develops VAADIN-based web applications for quote generation, project management, reproducible research using R and the visualization of project statistics. The source code of these applications is available on <https://github.com/qbicsoftware>.

In his role as a bioinformatics scientist, Simon not only provided excellent service to our customers by performing data processing and statistical analysis on big biomedical data, he also continuously improved QBiC's internal structure. He was the driving force for the establishment of a collection of standardized SOPs that significantly augmented our internal processes. As a major achievement, he decisively shaped a research grant application at the Ministry for Economics and Energy (BMWi), with a grant entitled PANTHOGRAPH. Through Simon's excellent scientific skills, he was able to acquire a total of 190,000 EUR to perform research on Genome visualization.

I am not only very impressed by his technical capabilities in terms of software development and bioinformatics, but also by his general rigor to achieve very high quality results. Simon is a very open-minded person with very high social and technical qualities to work in a team, but he also collected significant experience as a team leader in our software development division.

Simon was a great asset for my group and he completed his tasks to our fullest satisfaction. As of 01.07.2019 Simon will work towards a doctoral thesis in bioinformatics using the PANTHOGRAPH grant. He decided to stay in the group as a PhD Student and I am very happy to support Simon in the next three years on his bioinformatics research.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'S. Nahnsen', with a stylized flourish at the end.

Dr. Sven Nahnsen