

Press Release

## Plattner: Linking Huge Amounts of Medical Data at Lightning Speed

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Potsdam/Berlin. At the upcoming World Health Summit, Hasso Plattner Institute (HPI) will demonstrate to physicians and researchers how - thanks to the latest database technology - a great deal of time can be gained and used for the benefit of making individually tailored decisions on treatments. HPI founder Prof. Hasso Plattner will be giving a keynote speech on this subject on October 20<sup>th</sup>. Plattner is editor of a new reference book entitled "High-Performance In-Memory Genome Data Analysis," which is to be released by publisher Springer-Wissenschaftsverlag (ISBN 978-3-319-03034-0) in time for the World Health Summit.

In this work, Plattner and HPI scientist Dr. Matthieu-Patrick Schapranow describe how the in-memory database technology researched at the institute enables healthcare experts to carry out analysis combining huge amounts of genome data in real-time. This allows faster steps to be taken in the area of personalized medicine.

The so-called in-memory database technology makes it possible to perform an instantaneous, flexible analysis of digital genome data - among other things. "DNS as the carrier of genetic information supplies vital facts about serious and rare diseases, which thereby helps to offer approaches for better tolerated treatments, for example in the field of oncology," explains Prof. Christoph Meinel, the director of Hasso Plattner Institute. In order to subsequently link the prepared genome data with the newest research findings a huge knowledge database has been created at Hasso Plattner Institute.

"Instead of being forced to carry out time-consuming research based on separate information from many different sources, in the near future physicians and researchers will be able to have centralized access to the latest results via an HPI web platform," said Meinel. According to Meinel, experts will then be in a position to make decisions that are much more substantiated than they are at present. "It will allow the appropriate research and treatment approaches to be implemented. This will help patients while at the same time reducing costs," Meinel added.

"The fact that we can maintain all relevant data centrally is due to the huge in-memory capacity of our high-performance computers in the top level HPI

research lab,” said Meinel. In combination with the parallel processing of hundreds of computational cores, millions of data records can be compared simultaneously and the results presented in milliseconds.

**Note to the editors:**

An HPI video (German language) on the use of in-memory database technology in medicine can be found here [www.youtube.com/watch?v=r-QGqQ2wfqc](http://www.youtube.com/watch?v=r-QGqQ2wfqc) and English infographics can be found here [www.hpi.uni-potsdam.de/hpi/veranstaltungen/cebit/cebit\\_2013/high\\_performance\\_in\\_memory\\_genome.html?L=1](http://www.hpi.uni-potsdam.de/hpi/veranstaltungen/cebit/cebit_2013/high_performance_in_memory_genome.html?L=1).

**Profile of Hasso Plattner Institute**

The Hasso Plattner Institute for Software Systems Engineering GmbH (HPI) in Potsdam is Germany’s university excellence center for IT Systems Engineering. It is the only university institution in Germany offering the bachelor and master program in “IT Systems Engineering” – a practical and engineering-oriented study program in computer science, in which 450 students are presently enrolled. The HPI School of Design Thinking is Europe’s first innovation school and modeled on the Stanford d.school. It offers yearly 240 places for a supplementary study. There are a total of ten HPI professors and over 50 guest professors, lecturers and contracted teachers at the Institute. HPI carries out research noted for its high standard of excellence in its nine topic areas, as well as at the HPI Research School for PhD candidates, with its further research branches in Cape Town, Haifa and Nanjing. HPI teaching and research focus on the foundation and application of large-scale, highly complex and interconnected IT systems. The development and exploration of user-driven innovations for all sectors of life is an additional area of importance. HPI always earns the highest positions in the CHE university ranking. Since September 2012, HPI has provided an interactive Internet learning platform - [openhpi.de](http://openhpi.de). Its free, open online courses are available to everyone.

Press contact HPI: [presse@hpi.uni-potsdam.de](mailto:presse@hpi.uni-potsdam.de)  
Hans-Joachim Allgaier, M.A., Press Spokesman, Tel.: 0331 55 09-119,  
Mobil: 0179 267 54 66, Mail [allgaier@hpi.uni-potsdam.de](mailto:allgaier@hpi.uni-potsdam.de);  
Rosina Geiger, Press and Public Relations Officer, Tel.: 0331 55 09-175, Mail:  
[rosina.geiger@hpi.uni-potsdam.de](mailto:rosina.geiger@hpi.uni-potsdam.de)