

REPORT

Great mood in proteomics: Beijing and the HUPO Human Brain Proteome Project

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More than 1200 attendees came together at the 3rd HUPO World Congress in Beijing, October 25–27, 2004. In numerous different sessions the wide range of proteomic areas became visible. The HUPO Brain Proteome Project (HUPO BPP) organized an evening session on October 23, presenting the first results of two pilot studies as well as the newest, very positive international development in this field. The rising importance became even more apparent in the plenary presentation of all HUPO initiatives and the following congress activities. For more information, please visit www.hupo2004.cn and www.hbpp.org.

Received: November 4, 2004
Accepted: November 11, 2004

Keywords:

Beijing / Human Brain Proteome Project / Human Proteome Organisation / World Congress

The 3rd HUPO World Congress was successfully held in Beijing, China from October 25 to 28, 2004. More than 1200 delegates from all around the world (including China, the US, South Korea, Germany, France and the UK) came together to exchange and discuss new insights into proteomics-related fields (Fig. 1). Attendees had the possibility to participate in numerous parallel sessions, outstanding key talks, workshops and poster sessions as well as in the HUPO initiatives presentation that took place two days before the congress.

The HUPO Brain Proteome Project (HUPO BPP) met in the evening of Saturday, October 23. Despite the late hour, around 60 scientists were interested in the development of the neurodegeneration dedicated initiative and were updated concerning the activities of the consolidation phase. In particular, both the human and mouse pilot studies and their current status were explained. In these studies, limited to the end of 2004, mouse brain samples from three different stages (E16, P7, 8 weeks) as well as human brain tissues from autopsy and biopsy were analyzed under standardized start points in differential proteomics, peptidomics and transcriptomics approaches. Joachim Klose (Charité Berlin,

Germany; mouse part) and Albert Becker (University of Bonn, Germany; human part) presented the current status in the 16 participating groups. Most partners are in the middle/end of the practical lab work or even finished as in the case of the commercial participant BioVisioN (Hannover, Germany), performing peptidomics. It was agreed that the pilot study groups will meet for the 3rd HUPO BPP Workshop at Castle Rauschholzhausen, December 15/16, 2004 according to the schedule composed together with the HUPO Proteomics Standards Initiative (PSI) (see below).

Two additional seminars were subsequently given by Danilo Tagle (NIH, USA) and Young Jun Oh (South Korea) dealing with proteomics activities in their countries. Both showed impressive programs, networks and funding, e.g. describing the US 250 M\$ program (2004–2007) of South Korea. Thus, in general it became clear that the impact and importance of proteomics as a key technology platform is still rising, especially in the Far East.

The next two talks presented by Rolf Apweiler (EBI, Hinxton, UK) and Kai Reidegeld (Medical Proteome-Center, Bochum, Germany) discussed the huge problem of data management, analysis and implementation of large consortia. Even in the pilot phase, numerous strategies and setups are in use resulting in different kind of data formats that have to be combined. The HUPO BPP therefore has decided, in consultation with HUPO PSI, to use the ProteinScape™ software of Bruker Daltonics (Bremen, Germany) and Protagen (Dortmund, Germany) as a common and standardized

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Figure 1. Plenary Session HUPO Initiatives.



Figure 2. Social event night of Beijing.

system compatible to the format PSI is developing. In order to offer an overall software right now, Protagen have customized the existing ProteinScape™ software in collaboration with the bioinformatics coworkers Christian Stephan and Kai Reidegeld of the Medical Proteom-Center, Bochum, Germany, considering the different mass spectrometers models used in the different groups. This has led to a comfortable platform suitable for most proteomics setting allowing the exchange of data with a data collection centre, located at the Medical Proteom-Center. In addition, the following schedule has been elaborated together with the PSI:

Data processing/analysis time line

17th December '04: ProteinScape training at the MPC, just after the 3rd HUPO BPP workshop in Castle Rauscholzhausen.

15th January '05: Deadline for DCC (data collection center) submissions and upload of unprocessed gel images *via* FTP. After this deadline DataProducers (DPs) will only have access to their own data.

Mid-End January '05: Meeting of the Bioinformatics Committee (possibly at Bochum).

31st March '05: From January–March the DCC will have been running the peak list re-analysis. Late submissions may

be accepted during this period, but only if the DP submits the data in ProteinScape format.

2nd April '05: Start of interpretation phase; participation of invited analysts. Premeeting will be near this time to allow discussion of feasible analyses, provide training on database access, *etc.*

Nth June '05: Main DP+analyst analysis jamboree (at the MPC, Bochum).

Mid-July '05: Analysis papers written; revisions to papers to be complete by mid-September.

In the last part of the session, the BPP coordinator Helmut E. Meyer summarized the past activities of the BPP, comprising two international workshops and numerous meetings of the Steering and Bioinformatics Committees, respectively. Helmut E. Meyer outlined future plans for 2004/2005, *e.g.*, a Mouse Workshop in Spring 2005 aimed at the choosing suitable as well as available mouse models that can be analyzed in the master plan phase. In addition, a subproject will be launched by Jens Wiltfang and Piotr Lewczuk (Erlangen-Nuremberg, Germany) with the goal of

identifying brain-derived proteins in human body fluids (Clinical Neuroproteomics of Human Body Fluids (HBF)). The session was closed with the general call to activate interested colleagues for the HUPO BPP that was officially affirmed by the HUPO council that met during the congress.

Taken together, the HUPO BPP session fitted well into this impressive congress and the course of the workshops of the other HUPO initiatives, each having similar sessions. Besides the scientific part of the Beijing convention, the social activities during the meeting were remarkable. Numerous discussions were to be seen and continued in the evening events, where even the dance skills of some participants were proved substantially (Fig. 2). At the end of the 3rd HUPO World Congress, the spirit of the participants could be summarized as "Great Mood in Proteomics" (modified title of Young Jun Oh's talk at the HUPO BPP session, October 23).

The German activities are funded in part by the German Federal Ministry of Education and Research (BMBF).