



## MEETING SUMMARY

### Joint human & microbial domain GBRCN pilot phase meeting

**DATE:** 29th – 30th November 2010

**VENUE:** Federal Ministry of Science and Research  
Freyung 3, 2nd Floor, A-1010 Vienna

#### **Participants**

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Hemma Bauer, Francois Bimet, Bernard Papierok, Detlef Böcking, Maria-Helena Bosschaerts, Vanderlei Perez Canhos, Manuela da Silva, Georges Dagher, Philippe Desmeth, Sergiu Fendrihan, Dagmar Fritze, Rongxing Gan, Sandra Hagauer, Robert Hewitt, Yeonhee Lee, Ning Li, Dunja Martin, Romano Mwirichia, Delphine Pannetier, Barbara Parodi, Markus Pasterk, Hilmar Quentmeier, Nadine Repnik, Andrea Scoccia, David Smith, Erna Storgards, Ken-ichiro Suzuki, Andreas Tiran, Jim Vaught, Kurt Zatloukal, Jiong Zhang, Yang Zhang

#### **Scope of the meeting**

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The pilot project 'Establishment of a Biological Resource Centre network for human samples' and the Global Biological Resource Centre Network Demonstration Project organised a meeting hosted by the Austrian Ministry of Science and Research in Vienna. The meeting brought together leading representatives from the biobanking and culture collection communities especially from OECD member states, accession candidate countries and enhanced engagement countries. The meeting provided an overview on the current status of resource management in various countries and helped define opportunities and obstacles for international collaboration in human medical research and microbiology. A mind mapping for a feasibility study on how the Best Practice Guidelines for Biological Resource Centres could be implemented has been done and interrelationships between the domain activities and synergies have been identified. The presentations and photos of the meeting are available on the GBRCN human and GBRCN websites:

- [www.gbrcn-human.org](http://www.gbrcn-human.org)
- [www.gbrcn.org](http://www.gbrcn.org)

## **Highlights and main themes from the presentations**

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Introduction and welcome by H. Bauer, Austrian Ministry of Science and Technology, described biobanking as one of top ten topics that will change the world. D. Smith introduced the GBRCN demonstration project listing the commonalities and differences between the two domains. This was followed by K. Zatloukal who provided a history of the BBMRI (Biobanking and Biomolecular Resources Research Infrastructure) preparatory phase. He reported that the first phase of BBMRI comes to an end soon and they will expand into a construction phase. He mentioned an impact study that has been done in Europe by G. Dagher to demonstrate the value and impact of BBMRI on science, economy, healthcare and the environment. This type of study is also needed for the GBRCN if it is to be successfully established. BBMRI will implement the OECD Best Practice Guidelines for Biological Resource Centres as a basis - thus guaranteeing that this European Research Infrastructure can become the European part of GBRCN human. Furthermore BBMRI developed a concept of Expert Centres which foresees sample analysis under internationally standardized conditions in their country of origin, thereby avoiding several obstacles that limit international collaboration and exchange of resources.

R. Hewitt commented on the need to manage common data in all domains, this being one of the main synergies between the domains. Other areas of synergy were considered to be cryostorage and harmonising SOPs. He also mentioned raising links to vendors as a potential source of funding. He mentioned that he had moved from ISBER (International Society for Biological and Environmental Repositories) and had established ESBB (European, Middle Eastern & African Society for Biopreservation & Biobanking, this appeared to have similar goals to the GBRCN and had the goals to establish work groups to address common issues.

H. Bauer described expectations from Member States and governments: Not only governments but industry etc. should be involved in funding the GBRCN. Clear added value for research community and BRCs (Biological Resource Centres) needed to be demonstrated. An obvious advantage was that duplication of effort should be avoided through integration of existing initiatives. There would be challenges to the building of a governance structure and the GBRCN would need to articulate clear milestones and clear responsibilities. Sustainable funding would be needed and not just a government responsibility. The GBRCN needed to avoid being over ambitious and to build step by step. D. Böcking (DLR) also raised the issue of funding, supporting the idea that the GBRCN business plan was an essential element needed soon.

D. Böcking also emphasised that governments need to see the demonstration of sustainability. He suggested that funds should come from the BRCs, institutional funding was necessary as the BRCs themselves benefited. Long-term funding would be needed instead of intermittent project funds. There was a need to bring together other funders and there was a need to engage Member States for MIRRI at an early stage if we wanted to be successful in getting governments onboard, there was a need to present clear arguments and communicate the identified benefits. There is also the need to have coherent evaluation strategies (see 3 reports on BBMRI website as examples: [www.bbmri.eu](http://www.bbmri.eu)). D. Böcking strongly recommended a stepwise approach and commented that we were too visionary – we needed to build on pragmatic achievements that were more visible to non-scientists. Therefore GBRCN needed:

- To urgently set up mechanisms for the indication of impact to add evidence to arguments
- To involve political stakeholders to help understand the political situation in nations, especially to understand how decisions are made
- To identify what are our overall benefits and unique selling points

It was agreed that specific show cases are required that demonstrated that large resources and high throughput are key to delivering sound information. K. Zatloukal suggested a project on the validation of biomarkers that would have high impact. But do we need a paper exercise or a full project? Ideas to be considered:

- Suggest a three pronged approach, use / compelling example, include an evaluation and discuss the policy issues
- Topics for a case study could be addressing: taxonomy, antibiotic resistance, legal issues, reference materials

### **Engaging Stakeholders**

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V. Canhos presented SICOL (Information System for Collections of Biotechnological Interest) and indicated that the government will not fund the initiative forever and that they hope to have better investments from industry. They need funding for a quantum leap in information development – this would be expensive. They had depended upon GBRCN Demo Project for their development to date and they thanked BMBF for their support for the Demonstration Project. P. Desmeth suggested the potential to focus on the implementation of the Nagoya Protocol – How can we use it?

A presentation on BGI (Beijing Genome Institute) which was established in 1999 in Beijing, as part of the HGP (Human Genome Project) followed [www.genomics.cn](http://www.genomics.cn). A high-throughput sequencing – 10000 cpus capacity with 1000 bioinformaticians was described. They are seeking for partnership with GBRCN – they reported a bottle neck of getting biological resources.

R. Mwirichia provided an overview on activities in Kenya; he described the CABI scoping study of 2002-2003; strengths of JKUAT; the NCST's (Kenyan National Council for Science and Technology) role and the activities triggered through the BMBF IB funded project initiated by DSMZ; he reported that they had established a new group to design proposals (listed in presentation).

S. Fendrihan presented the developments of the Romanian BRC initiative: only two small Romanian collections were listed in the WDCM (World Data Centre for Microorganism) holding 760 strains. This lack of facilities led to the development of the Romanian BRC. The new BRC has 15 staff they are currently establishing the laboratory and they have adopted CABRI (Common Access to Biological Resources and Information) guidelines. They have established a board of trustees and a scientific council. A comprehensive list of legislation produced for Romania was provided (see presentation, currently 6 collections are networking with the BRC (see presentation). They are gradually 'building' the BRC on a low budget. They carried out a user survey and identified 17 collections (2 at the international, 6 national and 5 private level). Additionally they are trying to set up a biotechnology company. They would like WFCC (World Federation for Culture Collections) accreditation in the future for TUV.

Y. Lee – KNRCC (Korean National Research Resource Centres) - reported that they wish to establish the global KNRCC (GNRRC) in the future. They are setting up a centre for guidelines (translated from other languages). The KNRCC constitutes 36 centres (12 microbial BRCs) implementing OECD BPG, they currently hold over 10 million samples. They have a strong publicity campaign appearing 200 times in TV and press. Malaysia collaborating with KNRCC(. Anrcc.org (Asian Network of Research Resource Centers) has been established with 12 Asian countries. They recently had a meeting at RIKEN Bioresource Centre in October 2010. KNRCC set aside funds for international cooperation; IMCAS (Institute of Microbiology, Chinese Academy of Sciences) / RIKEN / KNRCC – funding themselves.

J Vaught, CaHUB (Cancer Human Biobank Network), reported that the National Biospecimen Resource Best Practices were published in 2010, they are web based. It is a working document based on the OECD BPG / ISBER / and supplemented by national requirements. The USA biobanking landscape is fragmented. A National Biospecimen Network Blueprint has been established outlining standardization, interoperability and transparent governance. This establishes CaHUB, with US\$60 million allotted to develop it. They are developing a cost recovery model and have gathered cost data, assessed usage of samples (small sample groups up to 23 companies) and have assessed requirements.

CaHUB will have a centralised model they have:

- Set up a series of planning committees and working groups e.g. legislation; informatics partnerships – (see presentation)
- Establishing data resource : data elements over 200 to be collected
- Developing business model – developing cost recovery model – fundamental factors and hot drive priority - (see presentation)
- Prepared a charter – risk analysis and mitigation plan
- CaHUB guidelines more demanding (legal) not (technical) than OECD BPG

### **Conclusions from the two day meeting**

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Future activities to focus on commonalities:

- Explore linking organisational structure
- Must engage governments soon
- Business plan development (perhaps some common areas but different models)
- Demonstration of impact (need indicators of impact)
- Implementation of best practice support document
- Need to understand national situations: political, capacity and needs
- Feasibility of GBRCN can only be demonstrated on the basis of specific research projects (have to be identified) that address common interests of several OECD Member States

### **Expectations from Governments**

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- Involve other sectors in funding models and demonstrate sustainability
- Demonstrate clear added value; need to network networks
- Avoid being over ambitious, define clear milestones and clear responsibilities
- Build on pragmatic achievements that are more visible to non scientists

Both domains need:

- Concrete steps towards future development
- Appropriate funding mechanisms to be found
- Structure needs to be highly federated with small integrating platform

### **Agreed Action Plan**

1. Develop a plan for a close and synergetic linkage of both secretariats
2. Use case studies – short list of topics (a call to be made to participants)
3. Cost / benefit of Best Practice implementation needs carrying out
4. Support documents for implementing Best Practice needs drafting
5. Collection of proposals for common research projects in the human domain (by the secretariat of GBRCN human to Dr. Michaela Mayrhofer, michaela.mayrhofer@medunigraz.at)