



Europe / United States cooperation on biomedical integrative research

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VPH NoE – Outreach program

Why bother?



- There is long-standing tradition of US-EU cooperation between biomedical researchers. Bilateral collaborations self-supported or funded by specific USA or member state programs. Why we need more?
 - Biomedical Integrative Research is in its infancy, and need a collective intelligence to define its scopes, its methods, and to advocate its potential in terms of impact
 - International cooperation initiatives can offer some visibility and value to the individual researchers if they choose to actively participate
 - This is not in competition with existing cooperation initiatives, formal or informal: the more the better
 - Being involved does not have whatsoever effect of the chances to get funded in USA or in Europe

VPH: vision /1



- *Virtual Physiological Human*: “a methodological and technological framework that, once established, will enable collaborative investigation of the human body as a single complex system”. As defined by the STEP action.
 - See VPH research roadmap → <http://www.europphysiome.org/roadmap>
 - Wikipedia → http://en.wikipedia.org/wiki/Virtual_Physiological_Human
- VPH-based eHealth:
 - personalized care solutions
 - more holistic approach to medicine
 - preventative approach to treatment
- Personalised, Predictive, Integrative
- The promise of a sustainable PPI medicine

VPH: vision /2



- The VPH initiative consider the synergistic use of experimental and modelling methods to the construction of an integrative understanding of pathophysiology a cornerstone of European research for the years to come. We are moving from VPH as eHealth to:
 - VPH FET: use the vph vision to look in the future of technology with ideas like interactive multiscale visualisation or the web of models.
 - VPH Infostructure: a distributed cloud infrastructure that makes integrative research possible, and where all clinical data can be virtually integrated with research results
 - VPMouse & Virtual Tissues: VPH as a bridge between molecular biology and medicine, and between animal models and humans
 - Integrative research training and re-training

WIRI Agreement



- On 2007 a group of large research projects from all over the world signed the World Integrative Research Initiative agreement, which set a common research agenda.
- Soon after representatives of the European Commission and of the US NIH signed the “Osaka Accord on Worldwide Integrative Biomedical Research Cooperation”, which included the WIRI agreement as annex.
- See both accords here:
- http://www.biomedtown.org/biomed_town/VPH/wiri/

ICT-BIO 2008 & VPH2010



- **ICT-BIO 2008:** Representatives of the DG Research and DG INFSO of the European Commissions and a representative of the US NIBIB NIH institute participated to a panel discussion entitled "Opportunities and challenges for International Cooperation" as part of the ICT-BIO 2008 conference in Brussels, Belgium.
- http://ec.europa.eu/information_society/events/ict_bio/2008/index_en.htm
- **VPH 2010:** A follow-up event is scheduled for 30th September and 1st October, 2010, in Brussels.
- http://www.biomedtown.org/biomed_town/VPH/VPHnews/vph2010

VPH Internationalisation



- The DG INFSO fund 15 medium and large technological research projects on the “Virtual Physiological Human” topic.
- A call is opened for extensions to these projects aimed to establish a joint research agenda and better networking with other similar projects outside Europe. All five funded proposals target cooperation with US projects:
 - **TUMOR** aims at developing a European clinically oriented semantic-layered cancer digital model repository from existing EU projects. *EU project:* CONTRACANCRUM *US partner:* [Massachusetts General Hospital](#)
 - **NMS Physiome** brings together two of the largest research efforts (SIMBIOS & VPHOP) on personalised, predictive, and integrative musculoskeletal medicine. *EU project:* VPHOP *US partner:* [Stanford University](#)
 - **Sim-e-Child** aims to develop a grid-enabled platform for large scale simulations in paediatric cardiology. *EU project:* Health-e-Child *US partner:* the [American College of Cardiology](#), [Johns Hopkins University](#)
 - **MSV** aims to define and validate an interactive visualisation paradigm for biomedical multiscale data resulting in an extension of the Visualisation Took Kit (VTK). *EU project:* VPHOP *US partner:* [Kitware](#)
 - **RICORDO** aims to create a communal annotation strategy that supports the interoperability of VPH data and models across different biological scales.. *EU project:* VPH NoE *US partner:* [University of Washington](#)

ARGOS



- EC DG RELEX (external relations) funded some policy action under the heading “Transatlantic Methods for Handling Global Challenges in the European Union and the United States”, including ARGOS: “Transatlantic Observatory for Meeting Global Health Policy Challenges through ICT-Enabled Solutions”. The action explicitly targets electronic health record and the VPH as primary topics.
- The consortium see the participation among the others of the American Medical Informatics Association, the University at Buffalo, the University of California San Diego, the Certification Commission of Health Information Technology, the Center for Information Technology Leadership, the American Health Information Management Association, and the European American Business Council.
- This observatory will run until June 2011, and it is expected to produce a comparative analysis of current US and EU policy approaches.

What is next?



- Proposal submitted to NIH for the creation of “The Virtual Physiological Rat Center for the Study of Complex Disease” as US-EU-NZ cooperation
- Assessment of VPH: call 6 includes the call for a support action on evaluation and assessment of VPH projects, with respect to
 - the optimal use and contribution to the shared tools and infrastructure
 - the clinical achievements
 - the market potential or penetration
- EC is likely to call again for proposals on the VPH in call 8 (projects starting in 2012). A specific portion of the budget might be earmarked for non-European partners from countries that have a specific cooperation agreement with Europe on biomedical Integrative Research.

Resources



- Biomed Town
 - on-line community for biomedical integrative research. Membership is open a free to anyone with professional or educational interest in biomedical research.
 - <http://www.biomedtown.org>
- VPH Network of excellence
 - aims to help support and progress European research in biomedical modelling and simulation of the human body.
 - <http://www.vph-noe.eu/>
- Physiome Space
 - Digital library service designed to help researchers to share their biomedical data and models.
 - <http://www.physiomospace.com>
- Ontologies for the Virtual Physiological Human
 - Feb 14th, 2010 Workshop at the European Bioinformatics Institute, Cambridge, UK
 - <http://www.ebi.ac.uk/~bdb/ontologies/>
- VPH News feed:
 - http://www.biomedtown.org/biomed_town/VPH/VPHnews/RSS

Thank You!!

Please contact me for any information:
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