

Meeting Invitation: The Virtual Physiological Human

Meeting Dates: 2nd & 3rd February 2009

The Virtual Physiological Human (VPH) Network of Excellence is pleased to invite you to a VPH-Industry event at the European Bioinformatics Institute in Cambridge, UK.

This meeting will present efforts by the Virtual Physiological Human community, as well as other specialities, to model human structure and its function. This event also aims to advance the computational unification of anatomy in biological and pharmacological databases, physiological models, radiological images and clinical records.

Updates on key research in academia and industry will include the modelling of concepts (e.g. disease ontologies), structures (e.g. protein structure, volumetric data) and processes (e.g. viral mechanisms, blood pressure regulation). Ways to foster the interoperability of such modelling methods will also be explored, together with approaches to improve access to clinical phenotypic data for basic research.

This event sets the stage to establish a community toolkit to achieve model interoperability across the VPH community. In particular, design solutions will be sought for the rigorous representation of human anatomy and the close study of its dynamic change in physiology, its orchestrated moulding in development, and its distortion in disease.

Meeting format

The first day takes the form of an open meeting. Anyone with an interest in the Virtual Physiological Human project is welcome to attend. **Meeting participation for the second day is by invitation.**

Organisers and contacts

This meeting is organized by the Virtual Physiological Human Network of Excellence (<http://www.vph-noe.eu>), in collaboration with the coordinator of the EBI Industry Programme, Dr. Dominic Clark (<http://www.ebi.ac.uk/industry/ind-prog-index.html>).

The scientific programme was co-ordinated by Prof. Peter Hunter (University of Auckland), Prof. Alex Frangi (University Pompeu Fabra), and Dr Bernard de Bono (EMBL-EBI).

Registration deadline: Jan 19th 2009

Register at http://www.ebi.ac.uk/industryform/workshop2.php?meeting_id=165

Open Meeting: Feb 2nd 2009

The [Virtual Physiological Human](#) - the Anatomical Basis of Disease
Francis Crick Auditorium, Wellcome Trust Genome Campus, Hinxton CB10 1SD

Time	Item	Presenter
08:30	Registration	
09:00	Welcome and Introductions	Dominic Clark (EBI) Janet Thornton (EBI) Peter Coveney (UCL) Bernard de Bono (EBI)

SESSION 1: Concepts of Anatomy and Disease.

Chair: Lynn Schriml (University of Maryland).

09:30	The Foundational Model of Anatomy	Onard Mejino (University of Washington School of Medicine)
10:00	Connecting to clinical data - mapping SNOMED to anatomy	Kent Spackman (IHSTDO)
10:30	Integrating data and models using the Disease Ontology	Warren Kibbe (NorthWestern University)
11:00	Tea	

SESSION 2: Organizing anatomical models.

Chair: Bernard de Bono (EMBL-EBI).

11:30	Statistical models of radiological anatomy	Alex Frangi (University Pompeu Fabra)
12:00	Volumetric annotation of mouse anatomy	Richard Baldock (MRC, Edinburgh)
12:30	FieldML - a standard for anatomically based physiological modelling	Peter Hunter (University of Auckland)
13:00	Lunch	

SESSION 3: Modeling anatomical physiology.

Chair: Dan Cook (University of Washington School of Medicine).

14:00	Multi-scale modelling in musculoskeletal mechanics	Marco Viceconti (Rizzoli Institute)
14:30	Modeling of fluid compartment pressure and composition	Randy Thomas (CNRS)
15:00	Virtual organisms in the prediction of pharmacokinetics – principles and applications	Simon Thomas (Cyprotex Ltd)
15:30	Tea	

SESSION 4: Bridging across anatomical scales.

Chair: Jesper Tenger (Karolinska Institute).

16:00	Interoperability across resources via anatomy	Jonathan Bard (Weatherall Institute, Oxford)
16:30	Towards global pharmacodynamics - predicting the compartmental location of proteins	Thomas Skot-Jensen (Denmark Technical University)
17:00	Achieving multi-scale interoperability of VPH data and models	Bernard de Bono (EMBL-EBI)
17:30	Closing remarks	

Meeting by Invitation: Feb 3rd 2009

The [Virtual Physiological Human](#) – Modeling for the Pharma & Biotech Industry

European Bioinformatics Institute, Wellcome Trust Genome Campus, Hinxton CB10 1SD

Time	Item	Presenter
08:45	Welcome and Introductions	Dominic Clark (EBI) Bernard de Bono (EBI)

SESSION 1: Modeling at molecular scale.

Chair: Peter Kohl (University of Oxford).

09:00	Molecular modeling and computing infrastructures	Peter Coveney (UCL)
09:30	VPH strategies in predicting cardiotoxicity	Blanca Rodriguez (University of Oxford)
10:00	Molecular virology	Paul Kellam (Sanger Institute)
10:30	Computational fluid dynamics simulation for the clinic	Rod Hose (University of Sheffield)
11:00	Tea	

SESSION 2: Large scale interoperability.

Chair: Catherine Gale (UCL).

11:30	The HealthGrid Project	Yannick Legre (HealthGrid) [TBC]
12:00	The VPH toolkit - challenges, standards and protocols for VPH interoperability	Sharon Lloyd (University of Oxford) [TBC]
12:30	Interactive discussion with pharma industry representatives	Jonathan Cooper (University of Oxford)
13:00	Lunch	
14:00	Industry meeting closes	