Biomarkers for Brain Disorders: Challenges and Opportunities

27 February - 2 March 2011

Wellcome Trust Conference Centre, Wellcome Trust Genome Campus, Hinxton, Cambridge, UK

Draft programme

Sunday 27th February 2011

16:00 Registration

Biomarkers in Neurodegenerative Diseases and Brain Injury: Different platform approaches
Rosalind Franklin Pavilion, Wellcome Trust Conference Centre
Chair: Andrew Lockhart, GlaxoSmithKline, UK

16:50 Welcome and Introduction
Andreas Jeronim, Banyan Biomarkers, Inc, USA

17:00 The Need for biomarkers in Drug Discovery and Development
Chi-Ming Lee, AstraZeneca, USA

17:30 The Critical Role of Biobanking and Large Initiatives for Biomarker Discovery and Qualification
Tim Peakman, UK Biobank, UK

18:00 The Accelerated Cure Project Biorepository: Enabling the discovery of biomarkers in MS and other demyelinating diseases
Hollie Schmidt, Accelerated Cure Project for Multiple Sclerosis, USA

18:20 The Medical Research Council Network of UK Brain banks: Opportunities for biomarkers research in human tissues
James Ironside, University of Edinburgh, UK

18:40 Overview of Biomarker Research in ALS
Lucie Brujin, The ALS Association, USA

19:00 Incentive Prizes: A new mechanism for fostering innovation in biomarker discovery
Melanie Leitner, Prize4Life, USA

19:20 Welcome Drinks Reception
Conference Centre Cloisters

20:00 Dinner
Hall Restaurant

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Monday, 28th February 2011

07:30 Breakfast  Hall Restaurant

Session 1:  Imaging
Rosalind Franklin Pavilion, Wellcome Trust Conference Centre  
Chair: Giovanni Frisoni, IRCCS Fatebenefratelli, Brescia, Italy.

08.30 Functional PET as biomarker
David Brookes, Imperial College, UK

09:00 MRI as a trial biomarker for AD
Jonathan Schott, UCL, UK

09.30 fMRI in Preclinical and Clinical Drug Development
Alexandre Coimbra, Merck Research Laboratories, USA

10:00 Morning Coffee
Conference Centre Cloisters

10:30 EEG and MEG in Clinical Drug Development
Todd Verdoorn, Orasi, USA

11:00 Imaging and Physiological Function Based Biomarker Identification in Neuropsychiatric Diseases
Andreas Meyer-Lindenberg, Center for Mental Health, Germany

11:30 Identification of neuroimaging biomarkers with confidence: developing probabilistic MRI-based diagnostic and prognostic markers for depression using transductive conformal prediction.
Sergi Costafreda, Kings College London, UK

11:45 Ketamine effects on brain function – simultaneous FRMI/EEG during a visual oddball task
Georg Winterer, Helmholtz Research Center Jülich, Germany

12:00 Imaging the Glutamatergic System in Humans: Ketamine phMRI as a Central Pharmacodynamic Biomarker
Mitul Mehta, Kings College London, UK

12:15 Convergence of evidence for functional catechol-O-methyltransferase (COMT) haplotype-by-sex interactions on human cognition, prefrontal cortex function and knockout mouse models
Kristin Nicodemus, University of Oxford, UK

12:30 Lunch
Hall Restaurant

Session 2: Integrating Genomics, Multiple Biomarkers and Clinical Data through Bioinformatic Infrastructures
Rosalind Franklin Pavilion, Wellcome Trust Conference Centre  
Chair: Andreas Jeromin, Banyan Biomarkers, USA

13:30 Genetics and Biomarkers
Rong Chen, Stanford University, USA

14:00 Next-generation sequencing approaches to neurobiological disease
Daniel Geschwind, UCLA, USA

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14:30 Virtual Physiological Human (VPH) Initiative, neuGRID and outGRID: Infrastructures Needed for Biomarker Qualification & Development
*Giovanni Frisoni*, IRCCS Fatebenefratelli, Brescia, Italy.

15:00 Afternoon Tea
*Conference Centre Cloisters*

15:30 The DODONA Project: DNA prediction to improve neurological health
*Demeterius Maragnore*, NorthShore University Health System, USA

15:50 Desperately Seeking Biomarkers: A Case Study of CRF₁ Receptor Antagonism, a Novel Mechanistic Approach for Treating Depression, Anxiety & Other Stress Related Disorders
*John H. Kehne*, Translational Neuropharmacology Consulting, USA

16:10 Large Scale MRM Assay Validation of Early Alzheimer's Diagnosis and Monitoring
*Paul Kearney*, Integrated Diagnostics, USA

16:30 Alzheimers biomarker discovery utilising protein and mRNA levels in blood
*Richard Dobson*, Kings College London, UK

16:50 High Resolution differential mass spectrometry identifies candidate markers for Alzheimer's Disease in humans
*Ronald Hendrickson*, Merck, USA

17:10 Poster Session and Drinks Reception
*Conference Centre Cloisters*

19.00 Conference Dinner
*Hall Restaurant*
Tuesday 1\textsuperscript{st} March 2011

07.30  Breakfast  
\textit{Hall Restaurant}

Session 3:  \textbf{Fluid Phase Biomarkers}  
\textit{Rosalind Franklin Pavilion, Wellcome Trust Conference Centre}  
Chair: William Potter, FNIH, USA

09.00  Biomarkers and assay in brain injury  
\textbf{Andreas Jeromin}, Banyan Biomarkers, Inc, USA

09:30 Biomarkers in Parkinson’s disease  
\textbf{Howard Schulman}, Caprion, USA

10:00  Alzheimer’s Disease Biomarkers: Lessons from ADNI  
\textbf{Leslie Shaw}, University of Pennsylvania Medical center, USA

10:30 Morning Coffee  
\textit{Conference Centre Cloisters}

11:00  Plasma and CSF Proteomics: Searching for the Right Methods for Alzheimer’s disease and Other Neurodegenerative Disorders  
\textbf{Holly Soares}, BMS, USA

11.30 Interpreting CSF Profiles in AD  
\textbf{Jeff Waring}, Abbott, USA

12.00 Multiple reaction monitoring for biomarker discovery  
\textbf{Steve Carr}, MIT, USA

12:30 Huntington’s Disease Biomarkers  
\textbf{Sarah Tabrizi}, UCL, UK

13:00 Lunch  
\textit{Hall Restaurant}

Session 3:  \textbf{Continued}  
\textit{Rosalind Franklin Pavilion, Wellcome Trust Conference Centre}  
Chair: William Potter, FNIH, USA

14:00 Applications for biomarkers in multiple sclerosis diagnosis: prognosis and treatment safety  
\textbf{Axel Petzold}, MS Center VUmc Amsterdam, Netherlands

14:30 The diagnostic accuracy of CSF biomarkers for Alzheimer’s disease is age-dependent  
\textbf{Niklas Mattson}, Sahlgrenska University, Sweden

15.00 Development of a quantitative, multiplex protein assay for biomarker discovery and qualification in CNS Diseases  
\textbf{Barry McAleer}, NextGen Sciences, USA

15:15 NPT001: A Candidate Therapeutic for Clearance of Protein Aggregates in Alzheimer’s Disease  
\textbf{Richard Fisher}, NeuroPhage, USA

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15:30 CSF biomarkers may be useful in aiding early detection of Alzheimer’s 
*Maria Carrillo, Alzheimers Association, USA*

15:45 Development and Implementation of a TMT-SRM Assay for the Qualification of Candidate Biomarkers of Alzheimer’s Disease
*Ian Pike, Proteome Sciences plc, UK*

16:00 Anxiety disorder biomarker and pathway discovery
*Michaela Filiou, Max Planck Institute of Psychiatry, Germany*

16:15 Afternoon Tea
*Conference Centre Cloisters*

**Session 4 Looking to Future: Other Clinical Pathophysiology and Regulatory Role of Biomarkers**
*Rosalind Franklin Pavilion, Wellcome Trust Conference Centre*
Chair: Giovanni Frisoni, IRCCS Fatebenefratelli, Brescia, Italy.

16:45 Prions – A Different Pathophysiology with Unique Biomarker Implications
*John Collinge, UCL, UK*

17:15 The Parkinson Progression Marker Initiative: Developing a Translational Toolbox for PD
*Kenneth Marek, The Institute for Neurodegenerative Disorders, USA*

18:15 Role of Biomarkers in Regulatory Review
*Maria Isaac, European Medical Agency*

18:45 PharmCog – A Collaborative Biomarker Initiative
*Ceri Davies, GlaxoSmithKline, UK*

19:15 Critical Path Initiative
*Marc Cantillon, Critical Path Institute, USA*

19:45 Dinner
*Hall Restaurant*
**Wednesday 2\textsuperscript{nd} March 2011**

07:30  **Breakfast**  
Hall Restaurant  

**Session 4  Discussion Groups**  
*Rosalind Franklin Pavilion, Wellcome Trust Conference Centre*  
Chair: Name  

09:00  Biomarkers: Where are We Now and What are Most Important Next Steps?  

Loft Room 1  
Group 1: Genetics, Informatics and Consortia  
Facilitator: Name  

Loft Room 2  
Group 2: Brain Physiology – fMRI vs EEG/MEG  
Facilitator: Name  

Rosalind Franklin Pavilion  
Group 3: Proteomics and Methods Development  
Facilitator: Name  

10:30  Morning Coffee  
*Conference Centre Cloisters*  

11:30  Summary Discussion  
*Rosalind Franklin Pavilion, Wellcome Trust Conference Centre*  
Chair: Name  

12:30  Closing remarks  
*Name*  

12:45  Conference Closure