

Meeting Programme

Course State-of-the-art High Throughput Sequencing Technologies	Course Advances in imaging technologies
<p>DAY 1 (June 8, 2009)</p> <p>Session 1: Update on next-generation technologies - Are we near the 1000 USD genome? <ul style="list-style-type: none"> • How new technology changed the concept of sequencing, David Bentley • Targeted capture technologies, Thomas J Alberts • ABI's strategy for next decade sequencing, Dennis Gilbert </p> <p>Session 2: Specific Biological Applications <ul style="list-style-type: none"> • Signature sequencing, David Altshuler • Whole-genome re-sequencing, George M. Church • Directed sequencing and de novo genome assembly, Kerstin Lindblad-Toh • 1000 Genomes project, Richard Durbin </p>	<p>DAY 1</p> <p>Session 1: Confocal microscopy TBA <ul style="list-style-type: none"> • Development and considerations • Dye separation, multicolor Imaging and Analysis • FRAP, FRET and FLIP: basics and principles </p> <p>Session 2: Multi-photon laser scanning microscopy <ul style="list-style-type: none"> • Live cell imaging, Winfried Denk • In tissue slices, Winfried Denk • Imaging trafficking, Daniel Choquet </p>
<p>DAY 2 (June 9, 2009)</p> <p>Session 3: Practical considerations <ul style="list-style-type: none"> • Template preparation, Ann-Christine Syvänen • Related costs, Ann-Christine Syvänen and company representatives </p> <p>Session 4: Data handling and analysis <ul style="list-style-type: none"> • New advances in biostatistics, Juni Palmgren • Data storage and challenges of bioinformatics, TBA • Available genotyping databases, Jim Ostell </p> <p>Session 5: Site visit University Hospital in Oslo</p>	<p>DAY 2</p> <p>Session 3: Functional Brain imaging <ul style="list-style-type: none"> • MRI, Richard Frackowiak • PET, David Brooks </p> <p>Session 4: Practical considerations and applicability <ul style="list-style-type: none"> • MicroPET in research animals, Agneta Nordberg • microMRI in research animals, Annemie van der Linden • Imaging dendritic changes in the brain in vivo, TBA • Biomedicine in Huntington's Disease, H Diana Rosas </p> <p>Session 5: Demonstration/site visit University Hospital in Oslo</p>
Symposium	
<p>DAY 3 (June 10, 2009)</p> <p>Keynote Lecture: TBA, Gert-Jan B. van Ommen (THE NETHERLANDS)</p> <p>Session 1: Genetics and Imaging <ul style="list-style-type: none"> • Visualisation of biomarkers • Whole-genome association scans • Imaging and association studies for early diagnosis of Alzheimer's disease. Agneta Norberg (SWEDEN) </p> <p>Session 2: 1000 genomes and beyond <ul style="list-style-type: none"> • 1000 genomes Consortium. Richard Durbin (UK) • New Sequencing Technologies. George Church (USA) • Genome wide profiles of common diseases Leena Peltonen (FINLAND/UK) • Finding disease-related genes in other species. Kerstin Lindblad-Toh (SWEDEN/USA) </p> <p>Session 3: New Imaging Technologies <ul style="list-style-type: none"> • Brain functional reorganisation in disorders of motor control using PET-imaging. David Brooks (UK) • Two-photon optical imaging. TBA • Single molecule tracking coupled to nanotechnology/quantum dots. Daniel Choquet (FRANCE) • Plasticity and reorganization of motor systems during recovery using classical MRI techniques. Richard Frackowiak (UK) </p> <p>Session 4: poster session and cocktail reception</p>	

DAY 4 (June 11, 2009)

Session 5: Omics

- Genome profiles: From individual variations to functional consequences. David Altshuler (USA)
- Proteomic studies in and human diseases. Janet Thornton (UK)
- Novel biomarkers, global view of proteomics and metabolomics, Mathias Uhlén (SWEDEN)

Session 6: Tools for the study of epigenetic control of genome function

- Large scale sequencing for characterization DNA methylation status, Ann-Christine Syvänen (SWEDEN)
- Deciphering cancer epigenetics. Henk Stunnenberg (THE NETHERLANDS)
- Sequencing and transcriptomics. Johan den Dunnen (THE NETHERLANDS)

Session 7: Databases and bioinformatics

- New advances in biostatistical analyses of genome wide data. Juni Palmgren (SWEDEN)
- New tools of bioinformatics. Janet Thornton (UK)
- Genotyping databases and data archiving. Paul Flicek (UK)

Session 8: selected abstracts presentations (12 presentations)

Session 9: presentation of European platforms – part 1: EMBL and Nordic Nodes for Molecular Medicine

- EMBL headquarters. Iain Mattaj (GERMANY)
- Finland: Institute for Molecular Medicine Finland (FIMM), University of Helsinki, Finland. Olli Kallioniemi (FINLAND)
- Norway: Centre for Molecular Medicine Norway (NCMM), University of Oslo Kjetil Taskén (NORWAY)
- Sweden: Laboratory for Molecular Infection Medicine Sweden (MIMS), Umeå University Bernt Eric Uhlin (SWEDEN)

Conference dinner

DAY 5 (June 12, 2009)

Session 10: Omics and imaging to study mechanisms underlying disease

- Whole-genome studies redefining diabetes. Mark McCarthy (UK)
- Novel strategies of immune suppression in stroke. Andreas Meisel (GERMANY)
- Water imbalance related diseases: the pathophysiological roles of aquaporin water channels. Peter Agre (USA)
- Inflammation in CNS disorders. Sarah Tabrizi (UK)
- Cancer genetics and systems biology. Olli Kallioniemi (FINLAND)

Session 11: European platforms – part 2: ESFRI European Research Infrastructure

- BBMRI. Kurt Zatloukal (AUSTRIA)
- EATRIS. Anita Aperia (SWEDEN)
- ELIXIR. Janet Thornton (UK)

Special Workshop. Establishment of networks and integration of Nordic efforts in Molecular Medicine. Anita Aperia (SWEDEN) and Dr Andres Metspalu (ESTONIA)