

Medical Genetics Summer School –

From Next-Generation Sequencing to Translational Medicine in Neurological Disease Research

25-27 July 2016 | Tübingen, Germany

Agenda

Monday, July 25th 2016

Seminar rooms in building 330, Medizinische Genetik / Frauenklinik, Calwerstr. 7, 72076 Tüb

8:30	Registration <i>In front of room 305, 5th floor</i>
Clinical aspects of neurological disorders <i>Room 305, 5th floor</i>	
9:00	Welcome by Olaf Riess (Institute of Medical Genetics and Applied Genomics, University Hospital Tübingen) Matthis Synofzik (Centre for Neurology and Hertie Institute for Clinical Brain Research, University Hospital Tübingen) Lecture: Diagnostics and examination procedures of neurological movement disorders
10:15	Coffee break
10:40	Kathrin Grundmann (Institute of Medical Genetics and Applied Genomics, University Hospital Tübingen) Lecture: Diagnostics of dystonia Rejko Krüger (Luxembourg Centre for Systems Biomedicine, University of Luxembourg) Lecture: Phenotypic spectrum and diagnostics of Parkinson's Disease
12:00	Lunch break <i>Casino Frauenklinik</i>
Genetic diagnostics <i>Room 305, 5th floor</i>	
13:00	Hans Scheffer (Department of Human Genetics, Radboud University Medical Center) Lecture: Methodological Principals in Neurogenetic Diagnostics Stefan Czemmel (Quantitative Biology Center, University of Tübingen) Lecture: Variation in alternative transcript production: from DNA and RNA data to Medical Diagnostics
14:40	Coffee break
15:00	Thomas Hentrich (Institute of Medical Genetics and Applied Genomics, University Hospital Tübingen) Lecture: Neuroepigenomics: The gene-environment axis in complex neurodegenerative diseases

Lab tour	
<i>Meeting Point: Room 305, 5th floor</i>	
15:40	We will divide the class in two smaller groups. Lab members will pick up the groups at the seminar room and guide them through the NGS and microarray facilities. Afterwards, they will bring the groups to the big lecture hall.
Keynote lecture	
<i>Big lecture hall of the Frauenklinik, 6th floor</i>	
17:30	Johannes Krause (Max Planck Institute for the Science of Human History, Jena) Genetic History of Europe: Migration and adaptation in prehistory
Poster session	
<i>7th floor</i>	
18:30	Poster session with wine, beer and pizza
20:30	On own

Tuesday, July 26th 2016

Computer room K2, 2nd floor (Centre for Data Processing (Zentrum für Datenverarbeitung (ZDV), Wächterstr. 76, 72074 Tübingen)

Introduction to NGS data analysis	
9:00	Marc Sturm (Institute of Medical Genetics and Applied Genomics, University Hospital Tübingen) Lecture: Basics of NGS data analysis and NGS quality control
10:30	Coffee break
NGS data analysis workshop	
10:45	Marc Sturm and Florian Harmuth (Institute of Medical Genetics and Applied Genomics, University Hospital Tübingen) Hands-on workshop: NGS data analysis
12:00	Lunch break <i>tbd</i>
13:00	Marc Sturm and Florian Harmuth (Institute of Medical Genetics and Applied Genomics, University Hospital Tübingen) Hands-on workshop: NGS data analysis
16:00	On own
Social event	
<i>Meeting Point: in front of Hotel Hospiz Tübingen, Neckarhalde 2, 72070 Tübingen</i>	
17:45	Guided city tour and dinner (location tbd)

Wednesday, July 27th 2016

Seminar room 305 on 5th floor in building 330 (Medizinische Genetik / Frauenklinik, Calwerstr. 7, 72076 Tübingen)

From NGS data analysis to the clinics	
9:00	<p>Dominik Seelow (Charité Universitätsmedizin Berlin) Lecture: Variant filtering for exome data analysis</p> <p>Heidi C. Howard (Centre for Research Ethics & Bioethics, Uppsala University) Lecture: How to deal with incidental findings (tbc)</p>
10:20	Coffee break
10:40	<p>Rebecca Schüle (Centre for Neurology and Hertie Institute for Clinical Brain Research, University Hospital Tübingen) Lecture: Interpreting genetic reports: The physicians role</p> <p>Ludger Schöls (Centre for Neurology and Hertie Institute for Clinical Brain Research, University Hospital Tübingen) Lecture: How NGS results influence the therapy of neurological disorders: a clinical example</p>
12:00	<p>Lunch break <i>Casino Frauenklinik</i></p>
Model systems	
13:00	<p>Tiago Outeiro (Department of Neurodegeneration and Restorative Research, University Medical Center Göttingen) Lecture: How yeast models improved our understanding of Parkinson's disease and related neurological disorders</p> <p>Hervé Tricoire (Université Paris Diderot) Lecture: From flies to human: Genetic and genomic approaches to uncover common modifiers in neurological diseases</p> <p>Hoa Nguyen (Institute of Medical Genetics and Applied Genomics, University Hospital Tübingen) Lecture: Utilising transgenic rodent models for studying disease mechanisms and pre-clinical testing of biotherapeutics</p>
15:00	Coffee break
Translation towards therapies	
15:20	<p>Andre da Costa (UCB Pharma GmbH) Lecture: NGS biomarkers: bench to bedside translation in drug development</p> <p>Thorsten Schmidt (Institute of Medical Genetics and Applied Genomics, University Hospital Tübingen) Lecture: From mechanistical insight to candidate compounds: a practical example</p>
16:40	Final remarks
17:00	Departure