

# 1<sup>st</sup> SYSGENET Meeting



## COST ACTION BM0901:

European Systems Genetics Network for the Study of Complex Genetic Human Diseases using Mouse Genetic Reference Populations

April 7<sup>th</sup> – 9<sup>th</sup>, 2010 Braunschweig

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## PROGRAM

**Venue:** Forum, Helmholtz Centre for Infection Research, Braunschweig, Germany

### Wednesday, April 7<sup>th</sup>

12:00 – 13:00 **Registration / Snack**

13:00 – 13:15 Welcome Klaus Schughart (Coordinator)

**Chair: Fuad A. Iraqi**

13:15 – 13:30 (1) Paul Denny, Laura Wisby, Magdalena Jonczyk, Vitor Fernandes, Aras Kadioglu, Peter W. Andrew:  
*The Genetics of Susceptibility to Systemic Pneumococcal Infection*

13:30 – 13:45 (2) Charlène Blanchet, Tânia Zaveruche do Valle, Laurent Guillemot, Jean Jaubert, Jean-Jacques Panthier, Xavier Montagutelli:  
*Dissecting Host Susceptibility to Infectious Diseases Using *Mus Spretus* x C57BL/6 Interspecific Recombinant Congenic Strains*

13:45 – 14:00 (3) Fuad A. Iraqi, Fernando Pardo-Manuel de Villena, Binnaz Yalcin, Ron Korstanje, Hanna Tayem, Karin Vered, Hani Sendovski, Alaa Hamash, Ervin Weiss, Ariel Shusterman, Yael Hourri-Haddad, Gary Churchill, Richard Mott:  
*Mapping QTL Associated with Host Susceptibility to Infectious and Chronic Diseases Using the Collaborative Cross Mouse Resource Population*

14:00 – 14:15 (4) Pascal Rihet:  
*Genomics of Host Malaria Resistance: From Man to Mouse to Man*

14:15 – 14:30 (5) Tatiana Nedelko, Barkha Srivastava, Paulina Blazejewska, Nuno Viegas, Xavier Montagutelli, Haiya Wu, Rudi Alberts and Klaus Schughart:  
*Host Susceptibility to Influenza A Infections*

**Chair: Gudrun A. Brockmann**

14:30 – 14:45 (6) Ayça Doğan, Christina Neuschl, Gudrun A. Brockmann:  
*Adipose Tissue as an Endocrine Organ in BXD Mice*

14:45 – 15:00 (7) Joan Campbell-Tofte:  
*Investigating Tissue Fatty Acid Accumulation and Age-Related Development of Type 2 Diabetes in Mice Models*

15:00 – 15:15 (8) Pénélope Andreux, Charles Thomas, Evan G. Williams, Rob W. Williams, Johan Auwerx:  
*A Phenogenomic Approach to Identify Novel Determinants of Mitochondrial Function*

- 15:15 – 15:30 (9) Javier Conde-Vancells, Eva Rodriguez-Suarez, Esperanza Gonzalez, Agustin Berisa, David Gil, Nieves Embade, Felix Elortza, Shelly C. Lu, Jose M. Mato, Juan M. Falcon-Perez:  
*Metabolomic Profiles and Exosomes as New Source for Biomarker Discovery*
- 15:30 – 15:45 (10) Karl Kashofer, Beate Ulbel, Gintare Siaulyte, Leo Fröhlich, Peter M. Abuja, Helmut Denk, Julia Starmann, Marc Sultan, Ingrid Osprian, Hans P. Deigner, Holger Sülthmann, Hans Lehrach, Kurt Zatloukal:  
*Individual Risk Factors for Steatohepatitis – Identifying Sensitizer Genes Using Chromosome Substitution Strains in Combination with Dietary Models for Metabolic Disease*
- 15:45 – 16:15 **Coffee Break / Open discussion / Poster session**
- Chair: liris Hovatta**
- 16:15 – 16:30 (11) Paul Franken:  
*Genetic Determinants of Sleep and EEG in Mice*
- 16:30 – 16:45 (12) Martien J.H. Kas, Annetrude de Mooij-van Malsen, Hein A. van Lith, David Collier, Berend Olivier:  
*Cross-Species Genetics of Neurobehavioral Traits; “Of Mice and Men”*
- 16:45 – 17:00 (13) Jonas Donner, Tessa Sipilä, Sami Pirkola, Joseph D. Terwilliger, liris Hovatta:  
*A Cross-Species Neurogenomics Approach to Anxiety*
- 17:00 – 17:15 (14) Eero Vasar, Sirli Raud, Silva Sütt, Tanel Visnapuu, Mario Plaas, Sulev Kõks:  
*Increased Anxiety in Wsf1 Deficient Mice: Evidence for Impaired Function of GABA-ergic System in Limbic Circuits*
- 17:15 – 17:30 (15) Sulev Kõks, Anton Terasmaa, Kadri Mehevits, Vallo Matto, Eero Vasar:  
*Wfs1 Deficient Mice Have Altered Response to the Morphine and Decreased Release of Striatal Dopamine*
- 17:30 – 17:45 (16) Ewelina Knapska, Leszek Kaczmarek:  
*Validation of Mouse Models of Psychiatric Diseases with a Novel Battery of Behavioral Tests*
- 17:45 – 18:00 (17) Ryszard Przewlocki:  
*Genetic Factors Linking Stress and Addiction*
- 18:00 – 18:15 Wim Crusio:  
*Title pending*
- 18:15 – 19:00 **Open discussion / Poster session**
- 19:00 **Dinner Forum**

## Thursday, April 8<sup>th</sup>

### Chair: August B. Smit

- 9:00 – 9:30 (18) Grant Morahan:  
*The “Southern Cross”: Update and Potential Applications*
- 9:30 – 10:00 (19) Darla Miller, Fernando Pardo-Manuel de Villena, David Threadgill:  
*Completing the Collaborative Cross to Support Systems Genetics*
- 10:00 – 10:15 (20) Richard Mott, Fuad A. Iraqi, Caroline Durrant and the Collaborative Cross:  
*The Genome Structure of the Oxford/Tel Aviv Cohort of the Collaborative Cross*
- 10:15 – 10:30 (21) August B. Smit, Maarten Loos, Sabine Spijker and the Dutch Mouse Phenomics Consortium:  
*The Dutch Mouse Phenomics Consortium: Lessons to Learn from Large-Scale Phenotypic Screening of Mouse Genetic Resources*
- 10:30 – 11:00 **Coffee Break / Open discussion / Poster session**

### Chair: Javier Santos

- 11:00 – 11:15 (22) Fragiskos Kolisis, Aristoteles Chatziioannou, Efstathios Gonos, Soterios Kyrtopoulos, Vassilis Zoubourlis:  
*System Biology in Carcinogenesis and Ageing*
- 11:15 – 11:30 (23) Javier Santos, María Villa-Morales, Laura González-Sánchez, Pilar López-Nieva, Concepción Vaquero, Helena González-Gugel, Beatriz Fernández-Muñoz, Ana Roncero, Immaculada Ors, José Fernández Piqueras:  
*Mouse Models for the Study of the Genetic Alterations Involved in the Development of Gamma-Radiation-Induced Thymic Lymphomas*
- 11:30 – 11:45 (24) Susanne N. Weber, Frank Lammert:  
*Strain-Specific Differences After Short-Time Challenge of C57BL/6J and DBA/2J with the Chemical Carcinogen Diethylnitrosamine*
- 11:45 – 12:00 (25) Leonard C. Schalkwyk, Emma L. Meaburn, Rebecca Smith, Emma L. Dempster, Aaron R. Jeffries, Matthew N. Davies, Robert Plomin, Jonathan Mill:  
*Allelic Skewing of DNA Methylation is Widespread Across the Genome*
- 12:00 – 12:15 (26) Jiri Forejt:  
*Inter-Subspecific Chromosome Substitution Strains in Genetic Studies of Complex Phenotypes*

### Chair: Ritsert Jansen

- 12:15 – 12:30 (27) Ritsert Jansen:  
*Systems Genetics in Action: From Multifactorial Genetic Perturbation to Defining Causal Genetic Networks*
- 12:30 – 12:45 (28) Danny Arends, Pjotr Prins, Ritsert Jansen, Karl Broman:  
*R/xqtl: High Throughput Modeling, Mapping and Exploration of Big Data*
- 12:45 – 13:00 (29) Pjotr Prins, Danny Arends, Ritsert Jansen, Karl Broman:  
*MQM: Multiple QTL Model Mapping with R/qtl*
- 13:00 – 14:00 **Catered Lunch / Open discussion / Poster session**
- 14:00 – 14:15 (30) Mathieu Clément-Ziza, Andreas Beyer:  
*Disentangling Complex Regulatory Traits in QTL Analysis*
- 14:15 – 14:30 (31) Steffen Möller, Saleh M. Ibrahim:  
*Mouse Genetics and Computational Resources for Investigating Chronic Inflammation*

- 14:30 – 14:45 (32) Anastasios Bezerianos, Konstantina Dimitrakopoulou:  
*Revealing the Regulatory Mechanisms of Various Diseases through Time-Varying Gene Regulatory and Protein-Protein Interaction Networks*
- 14:45 – 15:00 (33) K. Joeri van der Velde, Danny Arends, Tomasz Adamusiak, Joris Lops, Paul Schofield, Klaus Schughart, John M. Hancock, Andrew R. Jones, Helen E. Parkinson, Ritsert C. Jansen, members of the EU- EU-GEN2PHEN and NBIC/Biobanking consortia for human, CASIMIR consortium for mouse, EU-Panacea consortium for *C. elegans* and NL-NWO QTL Express consortium for *A. thaliana*, and Morris A. Swertz:  
*XGAP – eXtensible Genotype And Phenotype Software Platform*
- 15:00 – 15:15 (35) Rudi Balling:  
*From Systems Biology to Systems Biomedicine*
- 15:15 – 15:45 **Coffee Break / Open discussion / Poster session**
- 15:45 – 16:00 Introduction WG1 GRP resources, **Guus Smit**
- 16:00 – 16:15 Introduction WG2 Integrative phenotyping, **Paul Denny**
- 16:15 – 16:30 Introduction WG3 Systems bioinformatics, **Ritsert Jansen**
- 16:30 – 16:45 Introduction WG4 International outreach & comparative genetics, **Fuad Iraqi**
- 16:45 – 17:00 Introduction WG5 ESR development program, **Wim Crusio**
- 17:00 – 18:00 **Discussion WG activities**

## Friday, April 9<sup>th</sup>

9:00 – 11:00 Parallel sessions:

### WG1 & WG4

GRP resources  
International outreach

### WG2: Phenotyping & Genotyping

1. Infectious diseases, Liver diseases, Metabolic diseases, Cancer
2. Behaviour, CNS diseases & Neuro-regeneration, Reproduction

### WG3 & WG5

Bioinformatics  
Training & Mobility

- 11:00 – 11:30 **Coffee Break / Discussion / Poster session**
- 11:30 – 12:30 Summary of sessions (WG leaders, 15 min each) & general discussion
- 12:30 – 13:00 Wrap-up, Klaus Schughart
- 13:00 – 14:00 **Catered Lunch**
- 14:00 End of the meeting
- 14:00 – 16.00 MC meeting
- 16:00 **Coffee Break**