

COST Action BM1402 - Development of a European network for preclinical testing of interventions in mouse models of age and age-related diseases (MouseAGE) invites researchers to apply for the following training school:

Creating and Phenotyping Mouse models of Disease and Ageing

23rd-25th November 2015

MRC Harwell, Oxfordshire, UK

A draft programme is available below.

A bursary of 840 EURO will be available to participants as a contribution to the cost of travel, accommodation and meal expenses incurred. Accommodation for the training school will be available at Milton Hill House Hotel, Steventon, OX13 6AF at a cost of £112 per night Bed and Breakfast (approx. 158 EURO). The bursary will include 120 EURO a night for accommodation. Lunch and dinner will need to be purchased by the participant (reimbursable at a rate of 20 EURO per meal). A group dinner will be held in the hotel on 24th November at a cost of £30 (approx. 42 EURO). Taxis will need to be taken from the hotel to MRC Harwell. These will not be reimbursed.

To apply please complete the application form: <http://goo.gl/forms/6FVmrYm1Eq> and send your CV to mouseage@sheffield.ac.uk

There are 24 places available on the course.

The closing date for applications is 31st July 2015.

For queries please email mouseage@sheffield.ac.uk

Further details about COST Action BM1402 and it's aims are available on the website: http://www.cost.eu/COST_Actions/bmbs/Actions/BM1402

For more information about the COST Association please visit: <http://www.cost.eu/>

Outline of the Training School

Mouse genetics has made major contributions to our understanding of mammalian physiology, genetics, and disease. In recent years there have been major advances in methodologies to manipulate the murine genome and the subsequent phenotypic analysis of mouse lines. In addition there are now major international resources to facilitate mouse genetics and phenotyping. This training school aims to provide an overview of recent advances in these areas by bringing together experts from across Europe. The training school will include sessions on colony management of genetically modified mice, strategies for creation of novel mutants and their subsequent analysis, and resources available such as bioinformatics resources, archives, and infrastructure. There will be an emphasis on a 'hands on' approach wherever possible. In addition there will be examples of the applications of novel mouse models and applications of phenotyping, and an emphasis on using mouse models to study ageing. Throughout the training school presenters will be sharing their experiences and be available for discussions with attendees. Several major national and international mouse initiatives will be represented including the Harwell Ageing Screen, The International Mouse Phenotyping Consortium, The European Mouse Mutant Archive, and Infrafrontier.

Confirmed Speakers

- Prof David Baker, Queen Mary's University, London
- Prof Ilaria Bellantuono, University of Sheffield, Chair of the MouseAGE COST Action
- Prof Steve Brown, Director, Mammalian Genetics Unit, MRC Harwell, Chair of the International Mouse Phenotyping Consortium
- Dr Michael Hagn, European Mouse Mutant Archive
- Dr Frauke Neff, Helmholtzcentrum, Munich
- Dr Paul K Potter, Head of Disease Model Discovery, MRC Harwell
- Dr Sara Wells, Director Mary Lyon Centre MRC Harwell

Training School Preliminary Programme

Monday 23rd November: Making Models

- 10.00 – 10.45** Introduction to the Aims of the Course
- 10.45 – 11.15** MouseAGE COST Action
- 11.30 – 12.30** Introduction to Modelling Disease in Mice
The utility of mouse models in understanding disease. Key examples of advances resulting from mouse studies including limitations of the mouse and arguments against using it as a model.
- 14.00 - 15.00** Overview of Existing Technologies to Generate Mouse Models
Summary of current technologies and strains. Transgenics, Talens, alleles.
- 15.00 – 16.00** CRISPR/Cas 9 Technologies
Mix of short talks and worked examples of how to generate CRISPR mutations, problems, status of technologies and outputs. Including worked examples of use of software packages for the design of CRISPRs, cloning strategies, analysis of outputs from CRISPR projects.

Tuesday 24th November: Analysing Models

Session 1: Phenotyping

- 9.30 – 10.30** Phenotyping Platforms
Utility and outputs from common phenotyping platforms. Importance of comprehensive phenotyping (pleiotropy).
- 10.30 - 11.30** Outputs from the Harwell Ageing Screen
- 12.00 - 14.00** 2x 1hr Small Group Tours of MLC
*Phenotyping and husbandry practises.
One group will have lunch while the other group has lunch.*

Session 2: Know Your Models

- 14.00 – 15.00** MS Models and Experiences with Drug Trials in Mice
Examples of different approaches to disease modelling and assessing outcomes of interventions. Experiences with differences in mice affecting drug trials
- 15.00 – 16.00** Phenotypic Outcomes of Rapamycin Treatment Throughout Life
Analysing rapamycin treatment through detailed whole life phenotyping.
- 16.00 – 17.00** Know Your Strains: Importance of Genetic Background
Examples of variation seen in phenotypes in different mouse strains and the importance of good practice in colony management.
- 19.30** Training School Dinner

Wednesday 25th November: European Infrastructures and Programmes

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| 9.30 – 10.30 | The Infrafrontier Network |
| 10.30 - 11.15 | Mutant Archives |
| 11.15 – 12.00 | The International Mouse Phenotyping Consortium |
| 12.00– 14.00 | Lunch/Discussions with Trainers |
| 14.00 – 16.30 | Bioinformatics resources
<i>Worked examples at computers of using MGI, Ensembl and other important bioinformatics resources. Mixture of 20 minute talks and working at laptops through worked examples.</i> |