Day 1 – Wednesday 16th March 2016

08:30 - 09:00  Arrival and registration

09.00 - 09:15  Welcome and introduction to the IMG and CCP - Radislav Sedlacek, IMG, Prague, Czech Republic

09:15 - 09:25  Introduction to the course and the teaching material – Inken Beck, IMG, Prague, CZ

09:25 - 10:45  Principles and benefits of cryobiology – Martin Fray, Medical Research Council, Harwell, UK

10:45 – 11:00  **TEA and COFFEE**

11:00 – 12:00  New approaches to exchanging mouse strains - Lluis Montoliu, National Centre of Biotechnology, Madrid, Spain

12:00 –13:00  **LUNCH**

13:00 – 15:00  Sperm Harvesting/Freezing Introduction
   A.  Sperm freezing – (Practical)
   B.  Preparing epididymides held for refrigerated transportation in Lifor (Practical)
   C.  Sperm held on dry-ice (Demonstration)

15.00 – 15.15  **TEA and COFFEE**

15:15 – 16:00  Preparation for Thursday’s IVF
   Media preparation
   A.  Pre-incubation dish containing MBCD
   B.  Fertilisation drops containing GSH
   C.  Wash dish containing mHTF

16.00 – 16.30  Animal welfare aspects on cryopreservation - Marcello Raspa, CNR-IBCN, Monterotondo, Italy

16:30 – 17:00  Recap/Review

19:30  **MEET IN PRAGUE FOR BAR DINNER**
Day 2 – Thursday 17th March 2016

07:30 - 10:30  IVF Introduction

a)  Set up an IVF using freshly harvested sperm and vitrified oocytes – (Demonstration)

b)  Set up an IVF using sperm held on dry ice - (Demonstration)

c)  Set up an IVF using sperm harvested from epididymides held overnight in Lifor – (Practical)

d)  Set up an IVF using sperm frozen in LN₂ (Practical)

10:30 – 11:00  
TEA AND COFFEE

11:00 – 12:00  New development and ideas in sperm freezing techniques - Toru Takeo, CARD, Kumamoto University, Japan

12:00 – 13:00  
LUNCH

13:00 – 15:30  Wash IVF - (Demonstration followed by practical training)

15.30 – 16:00  INFRAFRONTIER-EMMA resource, principles to efficiently share mouse models - Susan Marschall (Helmholtz Zentrum Munich, Germany)

16.00 – 16:15  Recap/Review

16:15 – 17:00  CRISPR technology (joint lecture)
Lluis Montoliu, National Centre of Biotechnology, Madrid, Spain
Day 3 – Friday 18th March 2016

08:30 – 10:00  Assess IVF dishes - (Demonstration followed by practical)

10:00 – 10:15  **TEA AND COFFEE**

10:15 – 12:00  Embryo vitrification – (Demonstration followed by practical)

12:00 – 13:00  Thawing vitrified embryos - (Demonstration followed by practical)

13:00 – 14:00  **LUNCH**

14:00 – 16:00  Non-surgical embryo transfer – Barbara Stone, Paratechs Corporation

16.00 – 16.15  **TEA and COFFEE**

16:15 – 17:15  Preparing frozen samples for shipment – Soren Knudsen - Cryoport

17:15 - 17:30  Wrap up presentation and closure of the course

THE TRAINING TEAM

Head: Martin Fray, INFRAFRONTIER and Medical Research Council, MLC Harwell, UK

Education crew:
Inken Beck, Czech Centre for Phenogenomics, IMG, Prague, Czech Republic
Soren Knudsen, Cryoport, USA
Susan Marschall, Helmholtz Zentrum Munich, Germany
Lluis Montoliu, National Centre of Biotechnology, CSIC, Madrid, Spain
Marcello Raspa, CNR-IBCN, Monterotondo, Italy
Barbara Stone, Paratechs, USA
Toru Takeo, CARD, Kumamoto University, Japan

Technical assistance:
Mo Guan (MLC Harwell, UK)
Julia Fernandez (CNB, Madrid, Spain)
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Holly Swash (MLC Harwell, UK)
SPONSORS:
Charles River Laboratories
Cryoport Incorporation, USA
Eppendorf AG, Germany
ParaTechs Corporation, USA
Zeiss

ORGANISATIONS:
Czech Centre for Phenogenomics, Institute of Molecular Genetics ASCR, Prague, Czech Republic
Division of Reproductive Engineering, Center for Animal Resources and Development (CARD), Kumamoto University, Japan
Helmholtz Zentrum München, German Research Center for Environmental Health, Germany
INFRAFRONTIER, München, Germany
Medical Research Council, MLC Harwell, UK
National Centre of Biotechnology, CSIC, Madrid, Spain
National Research Council, Institute of Cell Biology and Neurobiology, Rome, Italy