

PROGRAMME

Monday 24 November, 2008

09:00 - 09:30 Opening session

Prof. Guillermo Dighiero - Director of the Institut Pasteur de Montevideo

Dr. Martina Crispo (co-organizer Institut Pasteur de Montevideo)

Drs. Jean-Louis Guénet/Jean-Jacques Panthier (co-organizers Institut Pasteur Paris)

09:30 - 11:00 Lecture: A century of mouse genetics - Origin and diversity of laboratory strains (*Jean-Louis Guénet*).

11:00 - 11:30 Coffee break

11:30 - 12:30 Lecture: Elements in formal genetics – Part 1 (*Jean-Jacques Panthier*).

12:30 - 14:00 Lunch

14:00 - 16:30 Practical session: supervised by *Fernando Benavides*. Mouse necropsy, sampling for histopathology - Basics of mouse pathology.

16:30 - 18:00 Lecture: Genetic monitoring of inbred strains and outbred stocks. (*Fernando Benavides*).

From 18:00 Informal get together

Tuesday 25 November, 2008

09:00 - 10:30 Lecture: The different categories of genetically standardized laboratory strains (outbred and randombred stocks - inbred strains and their derivatives - congenic and recombinant inbred strains) (*Jean-Louis Guénet*).

10:30 - 11:00 Coffee break

11:00 - 12:30 Practical session: supervised by *Fernando Benavides*, *Jean-Jacques Panthier* and *Xavier Montagutelli*. Genetic monitoring of inbred strains using microsatellites.
1) Preparation of PCR and agarose gels.

12:30 - 13:30 Lunch

13:30 - 15:00 Lecture: Elements in formal genetics – Part 2 (*Jean-Jacques Panthier*).

15:00 - 18:00 Practical session: supervised by *Fernando Benavides*, *Jean-Jacques Panthier* and *Xavier Montagutelli*. Genetic monitoring of inbred strains using microsatellites.
2) Electrophoresis and analysis of results.

Wednesday 26 November, 2008

09:00 - 11:00 Lecture: Genetic analysis of a heritable (Mendelian) trait - Analysis of inheritance – Genetic mapping (*Xavier Montagutelli*).

11:00 - 11:30 Coffee break

11:30 - 13:00 **Practical session:** supervised by Xavier Montagutelli, Jean-Jacques Panthier and Fernando Benavides. Genetic mapping of recessive mutation.
1) Preparation of PCR and agarose gels.

13:00 - 14:00 **Lunch**

14:00 - 15:00 **Lecture:** The mammalian Genome: what did we learn from its sequencing? (Jean-Louis Guénet).

15:00 - 17:30 **Practical session:** supervised by Xavier Montagutelli and Jean-Jacques Panthier. Genetic mapping of a recessive mutation.
2) Electrophoresis. Scoring of Genotypes. Data entry.

Thursday 27 November, 2008

09:00 - 12:30 **Practical session:** supervised by Xavier Montagutelli, Jean-Jacques Panthier and Fernando Benavides. Genetic mapping of a recessive mutation.
3) Data analysis - Discussion - Looking for further recombinants. PCR on recombinants.

12:30 - 13:30 **Lunch**

13:30 - 15:00 **Lecture:** The Management of an animal breeding facility (Fernando Benavides).

15:00 - 18:00 **Practical session:** supervised by Xavier Montagutelli, Jean-Jacques Panthier and Fernando Benavides. Genetic mapping of a recessive mutation.
4) Electrophoresis - Analysis of the haplotypes. Fine mapping of the mutation.

Friday 28 November, 2008

09:00 - 10:30 **Lecture:** Keeping stocks segregating for a transgene. Effects of the genetic background (Xavier Montagutelli.)

10:30 - 11:00 **Coffee break**

11:00 - 12:00 **Lecture:** Functional Genetics: Experimental Modification of the Mouse Genome. Classic transgenesis in mice (Marcelo Rubinstein).

12:00 - 13:00 **Lunch**

13:00 - 14:30 **Lecture:** Mutagenesis in the Mouse and Rat (Jean-Louis Guénet).

14:30 - 15:00 **Coffee break**

15:00 - 18:00 **Practical session:** supervised by Jean Jaubert. Genetic databases mining via the internet.

Monday 01 December, 2008

09:00 - 11:00 Lecture: Introduction to quantitative Genetics (*Xavier Montagutelli*).

11:00 - 11:30 Coffee break

11:30 - 12:30 Lecture: Genetic analysis of hypertension in the rat (*Jose Eduardo Krieger*).

12:30 - 13:30 Lunch

13:30 - 14:30 Lecture: Embryo and sperm cryopreservation (*Jean Jaubert and Martina Crispo*).

14:30 - 17:00 Practical session: Embryo and sperm cryopreservation (*Jean Jaubert, Martina Crispo and Luiz Augusto Corrêa Passos*).

Tuesday 02 December, 2008

09:00 - 11:00 Practical session: supervised by *Xavier Montagutelli*. QTL detection in a mouse model of lupus erythematosus.

11:00 - 11:30 Coffee break

11:30 - 13:00 Lecture: Positional cloning of a mouse mutation: from mapping to gene identification (*Jean Jaubert*).

13:00 - 14:00 Lunch

14:00 - 17:30 Practical session: supervised by *Martina Crispo and Jean-Jacques Panthier*. Dissection of *Myf5^{lacZ}*, *Kit^{lacZ}* and *Dct^{lacZ}* transgenic embryos at E9, E10, E11 and E12 - X gal staining.

Wednesday 03 December, 2008

09:00 - 12:30 Practical session: supervised by *Martina Crispo, Jean Jaubert and Luiz Augusto Corrêa Passos*. Manipulation of oocytes and early embryos: *in vitro* fertilization and culture, collection of fertilized embryos.

12:30 - 13:30 Lunch

13:30 - 15:30 Lecture: *Functional Genetics: Experimental Modification of the Mouse Genome: Targeted mutagenesis* (*Michel Cohen-Tannoudji*).

15:30 - 16:00 Coffee break

16:00 - 18:00 Practical session: supervised by *Mariela Bollati, Martina Crispo, Michel Cohen-Tannoudji and Jean Jaubert*. 1) *In vitro* culture of fertilized eggs. 2) ES cell culture. 3) *In vitro* Cre mediated deletion using reporter cell lines.

Thursday 04 December, 2008

09:00 - 12:00 Practical session: supervised by *Mariela Bollati, Martina Crispo and Michel Cohen-Tannoudji*. 1) ES cell culture. 2) *In vitro* Cre mediated deletion using reporter cell lines.

13:00 - 14:00 Lunch

14:00 - 16:00 Practical session: supervised by *Martina Crispo and Jean Jacques Panthier*. Analysis of expression pattern in stained transgenic embryos. *In vitro* manipulation of early mouse embryos.

16:00 – 17:00 Poster session

20:00 Farewell Dinner

Friday 05 December, 2008

09:00 – 10h30 Lecture: Functional Genetics: Embryonic Stem Cells - self-renewal, pluripotency - EpiSC - iPS (*Michel Cohen-Tannoudji*).

10:30 - 11:00 Coffee break

11:00 - 12:30 Lecture: Lentiviral vectors, a potent tool for the generation of transgenic animals: application to the generation of transgenic rats (*Ignacio Anegón*).

12:30 - 13:30 Lunch

13:30 - 17:30 Practical session: supervised by *Mariela Bollati, Michel Cohen-Tannoudji and Martina Crispo*. 1) ES cell culture. 2) *In vitro* Cre mediated deletion using reporter cell lines.

18:00 – 18:30 Closing ceremony