Principles in Transgenic Mouse Technology

CTS/KSL 394710

Dates: Thursday, September 20th - Friday, September 21st, 2018

Time & Venue: **Thursday, 20.09.18:** 09:00-12:00 & 13:00-18:00
Seminarroom 205, 2nd floor,
Hallerstrasse 6, 3012 Bern

**Friday, 21.09.18:** 09:00-12:00 & 13:00-18:00
Seminarroom 205, 2nd floor,
Hallerstrasse 6, 3012 Bern

Lecturers: PD Dr. Charaf Benarafa, Institute for Virology and Immunology
Dr. Urban Deutsch, Theodor Kocher Institute
PD Dr. Philippe Krebs, Institute of Pathology

Exam: Friday, December 7th, 2018, 14:00-16:00
Auditorium EG16, ground floor, Department of Chemistry and Biochemistry, Freiestrasse 3, 3012 Bern

ECTS: 1.0, with exam—for GCB students only.

Animal experimentation: Approved for 2 days of continuing education (Canton Bern)

Registration: Required, deadline: Friday, September 7th, 2018
Email: Ms Alexandra de Peyer, alexandra.depeyer@gcb.unibe.ch
Indicate your name, matriculation number, study program (GCB, ProDoc, Master, etc.) if applicable and whether you will take the exam.

Open to PhD Students of the GCB, ProDoc students, Post-doctoral fellows.
MSc students in Biomedical Sciences or in Molecular Life Sciences.

**Note:** The course is not officially recognized for MSc programs, but all participants can get the continuing education credits for animal experimentation.

Space limited to 40 participants.

**Program**
- Introduction on transgenic mice and their usefulness in research
- Biology of the laboratory mouse
- Mouse embryonic development
- Random mutagenesis
- Conventional transgenesis by pronuclear injection
- Inducible gene expression systems
- Lentiviral transgenesis
- Gene trap technology
- Generation of knock-out mice by homologous recombination in ES cells
- Recombinases and conditional knock-outs
- Recombination mediated cassette exchange (RMCE)
- Designer nucleases and CRISPR/Cas technology
- Mouse phenotyping programs
- Discussion of examples