Principles in Transgenic Mouse Technologies
CTS/KSL 394710

Dates: Thursday, December 5th - Friday, December 6th, 2019

Time & Venue: Thursday, 5.12.19: 08:30-12:00 & 13:15-18:00
              Friday, 6.12.19: 08:30-12:00 & 13:15-18:00
              Hauptgebäude, Room no. 033
              Hochschulstrasse 4, 3012 Bern

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

Exam: To be confirmed (Mid-January)
      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, November 18th, 2019
Email: Prof. Benarafa Charaf, charaf.benarafa@vetsuisse.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.

Information requests regarding the course content should be addressed to Charaf Benarafa
charaf.benarafa@vetsuisse.unibe.ch

Space limited to 40 participants.

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