Principles in Transgenic Mouse Technologies
CTS/KSL 394710

Dates: Wednesday, November 4th - Friday, November 6th, 2020

Time & Venue:
Wednesday, 4.11.20: 08:15-12:00 & 14:15-18:00
Thursday, 5.11.20: 13:15-18:00
Friday, 6.11.20: 13:15-18:00
Mikroskopie-Hörsaal, Eingang 43A, Murtenstrasse 31, 3010 Bern

Coordinator: Prof Dr. Charaf Benarafa, Institute of Virology and Immunology

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

Exam: Friday December 11th, 2020
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, October 23rd, 2020
Email: Charaf Benarafa, 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