

Techniques in Cardiovascular Research

CTS/KSL 487286

Course Description: Students will gain a good basis and overview about different techniques used in cardiovascular research. A typical course block (afternoon) consists of three lectures: a lecture on the specific technique, a lecture with examples of application (biological, (patho)physiologic background), and a lecture with some demonstrations / hands-on / and lab visit.

3 ECTS: Attendance is mandatory in 10 out of 12 lectures. 3 ECTS awarded with successful completion of the written exam (graded).

Course start date: 20.02.2025

Registration: Please register via the [CTS/KSL platform](#), root no. 487286

Limit: max. 20 participants

Course Registration Deadline: 06.02.2025

Exam Registration Deadline: 06.02.2025

Exam: 22.05.2025, 15:00-16:30h

Date (Thursdays, 13:15-16:00h)	Lecture	Lecturer	Title of lecture	Category	Room
20.02.2025	Lecture 1	Prof. Dr. Nadia Mercader / Dr. Ines Marques	Zebrafish as a Model to Study Cardiac Development and Regeneration	cellular	Ewald Weibel Auditorium (A224), Bühlstr. 26
27.02.2025	Lecture 2	Prof. Dr. Marco Osterwalder	Epigenomic Profiling of Heart Development and Disease	cellular	Room 416 Murtenstr. 28
06.03.2025	Lecture 3	Prof. Dr. Sarah Longnus	Ventricular and vascular function measurements in ex-vivo preparations	cardiac	Room 416 Murtenstr. 28

13.03.2025	Lecture 4	Prof. Dr. Yvonne Döring	(Mouse) Models of CVD and in vitro techniques to assess vascular inflammation	vascular	Room 416 Murtenstr. 28
20.03.2025	Lecture 5	Prof. Dr. Dominik Obrist	Experimental and Computational Modelling of Biomedical Flows	vascular	Seminarraum 258, Bühlplatz 5
27.03.2025	Lecture 6	Prof. Dr. Robert Rieben	3D in vitro Model for Endothelial Cell Culture under Pulsatile Flow	vascular	Room 416 Murtenstr. 28
03.04.2025	Lecture 7	Dr. sc. nat. Christian Zuppinger	Cardiac Cell Culture Techniques and Engineering	cellular	Room 416 Murtenstr. 28
10.04.2025	Lecture 8	Prof. Dr. Jessica Bastiaansen	Cardiac MRI	cardiac imaging	Room 416 Murtenstr. 28
17.04.2025	Lecture 9	PD Dr. Jean-Sébastien Rougier	In-vitro Electrophysiology and Patch-Clamp	electrophysiology	Raum 001, Gertrud-Woker-Str. 5
24.04.2025	Easter holidays				
01.05.2025	Lecture 10	Prof. Dr. Katja Odening	In vivo, Tissue, and Whole Heart Cardiac Electrophysiology	electrophysiology	Seminarraum 258, Bühlplatz 5
08.05.2025	Lecture 11	Prof. Dr. Matthias Wilhelm	Exercise Physiology	physiology	Room 416 Murtenstr. 28
15.05.2025	Lecture 12	Prof. Dr. Jan Kucera	Mathematical Modeling of Cardiac Bioelectrical Activity	electrophysiology	Room 104/105, Muesmattstr. 29
22.05.2025 (15:00-16:30h)	Exam				TBC

For further information, please contact: maria.arnold2@unibe.ch; daniela.castillorobles@unibe.ch; Sarah.HenningLongnus@insel.ch; katja.odening@unibe.ch