

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: 19.02.2026

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

Limit: max. 20 participants

Course Registration Deadline: 05.02.2026

Exam Registration Deadline: 05.02.2026

Exam: 28.05.2026, 15:00-16:30h

Date (Thursdays, 13:15-16:00h)	Lecture	Lecturer	Title of lecture	Category	Room
19.02.2026	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
26.02.2026	Lecture 2	Dr. Marco Osterwalder	Epigenomic Profiling of Heart Development and Disease	cellular	Room 416 Murtenstr. 28
05.03.2026	Lecture 3	Prof. Dr. Sarah Longnus	Ventricular and vascular function measurements in ex-vivo preparations	cardiac	Room 416 Murtenstr. 28
12.03.2026	Lecture 4	Prof. Dr. Yvonne Döring	(Mouse) Models of CVD and in vitro techniques to assess vascular inflammation	vascular	Room 416 Murtenstr. 28

19.03.2026	Lecture 5	PD Dr. Yara Banz	Cardiovascular Pathology and Histology	pathology	Room 416 Murtenstr. 28
26.03.2026	Lecture 6	Prof. Dr. Dominik Obrist	Experimental and Computational Modelling of Biomedical Flows	vascular	Seminarraum 258, Bühlplatz 5
02.04.2026	Lecture 7	PD Dr. Jean-Sébastien Rougier	In-vitro Electrophysiology and Patch- Clamp	electrophysiology	Raum 001, Gertrud- Woker-Str. 5
09.04.2026	Easter holidays				
16.04.2026	Lecture 8	Dr. sc. nat. Christian Zuppinger	Cardiac Cell Culture Techniques and Engineering	cellular	Room 416 Murtenstr. 28
23.04.2026	Lecture 9	Prof. Dr. Jessica Bastiaansen	Cardiac MRI	cardiac imaging	Room 416 Murtenstr. 28
30.04.2026	Lecture 10	Prof. Dr. Katja Odening	In vivo, Tissue, and Whole Heart Cardiac Electrophysiology	electrophysiology	Seminarraum 258, Bühlplatz 5
07.05.2026	Lecture 11	Prof. Dr. Matthias Wilhelm	Exercise Physiology	Physiology	Room 416 Murtenstr. 28
14.05.2026	Holiday day (Ascension)				
21.05.2026	Lecture 12	Prof. Dr. Jan Kucera	Mathematical Modeling of Cardiac Bioelectrical Activity	electrophysiology	Room 104/105, Muesmattstr. 29
28.05.2026 (15:00- 16:30h)	Exam				EG050 seminar room Murtenstr. 24

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