

Techniques in Cardiovascular Research

CTS/KSL 481120

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: 23.02.2023

Registration: Please register via the [CTS/KSL platform](#), root no. 481120

Limit: max. 20 participants

Course Registration Deadline: 09.02.2023

Exam Registration Deadline: 09.02.2023

Exam: Thursday, 01.06.2023, EG050, Murtenstr. 24, 13:15h

Date (Thursdays, 13:15-16:00h)	Lecture	Lecturer	Title of lecture	Category	Room
23.02.2023	Lecture 1	Prof. Dr. Marco Osterwalder	Profiling of Cardiac Gene Regulation in Development and Disease	cellular	EG050, Murtenstr. 24
02.03.2023	Lecture 2	Prof. Dr. Nadia Mercader / Dr. Ines Marques	Zebrafish as a Model to Study Cardiac Development and Regeneration	cellular	Ewald Weibel Auditorium (A224), Bühlstr. 26
09.03.2023	Lecture 3	Dr. sc. nat. Christian Zuppinger	Cardiac Cell Culture Techniques and Engineering	cellular	Room 416, Murtenstr. 28

16.03.2023	Lecture 4	Prof. Dr. Yvonne Döring	(Mouse) Models of CVD and in vitro techniques to assess vascular inflammation	vascular	EG050, Murtenstr. 24
23.03.2023	Lecture 5	Prof. Dr. Dominik Obrist	Experimental and Computational Modelling of Biomedical Flows	vascular	Seminarraum 258, Bühlplatz 5
30.03.2023	Lecture 6	Prof. Dr. Robert Rieben	3D in vitro Model for Endothelial Cell Culture under Pulsatile Flow	vascular	EG050, Murtenstr. 24
06.04.2023	Lecture 7	Prof. Dr. Sarah Longnus	Ventricular and vascular function measurements in ex-vivo preparations	cardiac	EG050, Murtenstr. 24
13.04.2023	Easter holidays				
20.04.2023	Lecture 8	Prof. Dr. Jessica Bastiaansen	Cardiac MRI	cardiac imaging	EG050, Murtenstr. 24
27.04.2023	Lecture 9	Prof. Dr. Matthias Wilhelm	Exercise Physiology	physiology	EG050, Murtenstr. 24
04.05.2023	Lecture 10	Prof. Dr. Katja Odening	In vivo, Tissue, and Whole Heart Cardiac Electrophysiology	electrophysiology	Seminarraum 258, Bühlplatz 5
11.05.2023	Lecture 11	PD Dr. Jean-Sébastien Rougier	In-vitro Electrophysiology and Patch-Clamp	electrophysiology	Raum 001, Gertrud-Woker-Str. 5
18.05.2023	Holiday day (Ascension)				
25.05.2023	Lecture 12	Prof. Dr. Jan Kucera	Mathematical Modeling of Cardiac Bioelectrical Activity	electrophysiology	Room 104/105, Muesmattstr. 29
01.06.2023	Exam				EG050, Murtenstr. 24

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