



METHODS IN CARDIAC RESEARCH

Tuesday 21 and Wednesday 22 April 2015

At Institute for Experimental Medical Research

Building 7, 4th floor

Oslo University Hospital Ullevål

Course administration: Mathis Korseberg Stokke and Kate Møller Herum

Tuesday April 21

08.30-08.40	Introductory remarks	<i>Mathis Korseberg Stokke</i>
08.40-09.00	Cardiac translational research - from bench to bedside	<i>Ivar Sjaastad</i>
Part I:	Methods in Molecular Biology	
09.05-09.20	Gene expression in the heart: Quantitative PCR	<i>Ulla Enger</i>
09.25-09.40	Proteins: Separation, purification and quantification	<i>Per Kristian Lunde</i>
09.45-10.00	Protein localization: FACS	<i>Andreas Romaine</i>
10.00-10.15	Coffee break	
10.15-10.30	Protein-protein interactions	<i>Cathrine Carlson</i>
10.35-10.50	Detection of cyclic nucleotides and protein-protein interactions: FRET in cardiac research	<i>Kjetil Wessel Andressen</i>
10.55-11.10	Quantitative assessment of cardiac receptors and intracellular signaling pathways	<i>Finn Olav Levy</i>
11.10-11.55	Practical Demonstration 1 : Methods in Molecular biology	
12.00-12.45	Free lunch at Ullevål hotell	
Part II:	Cardiac Phenotyping in Small Animals	
13.00-13.15	Cardiac imaging techniques for small animals	<i>Magnus Aronsen</i>
13.15-13.30	Hemodynamic measurements in small animals	<i>Håvard Attramadal</i>
13.30-13.45	The isolated perfused heart: Langendorff preparation	<i>Kåre Olav Stensløyken</i>
13.45-14.00	Contractile function <i>ex vivo</i> : Papillary muscle strips	<i>Eirik Qvigstad</i>
14.00-14.15	Coffee break	
14.15-15.15	Practical Demonstration 2: Large Animal Surgery in Cardiac Research	
15.15	End of day 1	



Wednesday April 22

Del III: Methods in Cell Biology

08.30-09.00	<i>In vitro</i> imaging and fluorescence techniques for characterization of cardiomyocyte function	<i>William Louch</i>
09.00-09.15	Assessment of cellular electrophysiology: Patch-clamp technique	<i>Jonas Skogestad</i>

09.15-10.15 Practical Demonstration 3: Methods in Cell Biology

10.15-10.30 Kaffepause

10.30-10.45	Cell cultures in cardiac research	<i>Mari Strand</i>
10.50-11.05	Transgene mus/dyr	<i>Ida Gjervold Lunde</i>
11.10-11.25	Induced pluripotent stem cells in cardiac research	<i>Andrew Edwards</i>

11.30-12.00 Free lunch at Ullevål Hotel

12.15-13.15 Practical Demonstration 4: *In vivo* Assessment of Cardiac Function in Small Animals

Part IV: Imaging Techniques in Cardiac Clinical Research

13.45-14.15	MRI and CT, SPECT and PET in evaluation of cardiac function	<i>Einar Hopp, Anders Hodt</i>
14.15-14.30	Echocardiography in research and clinical use	<i>Reidar Bjørnerheim</i>
14.30-14.50	Cardiac translational research – from bedside to bench	<i>Ingebjørg Seljeflot</i>

14.50-15.00 Coffee break

15.00 Test

16.00 Course end



Lecturers

Andressen, Kjetil Wessel	Research Scientist, Dept. of Pharmacology, UoO
Aronsen, Magnus	PhD student, Inst. for Experimental Medical Research, UuO/OUH
Attramadal, Håvard	Professor, Inst. for Surgical Research, OUH
Bjørnerheim, Reidar	Chief Attending Physician, Dept. of Cardiology, OUH
Carlson, Cathrine	Research Scientist, Inst. for Experimental Medical Research, OUH/UoO
Edwards, Andrew	Postdoctoral fellow, Inst. for Experimental Medical Research, OUH/UoO
Enger, Ulla	Research Associate, Inst. for Experimental Medical Research, OUH/UoO
Hodt, Anders	Dept. of Radiology and Nuclear Medicine, OUH
Hopp, Einar	Chief Attending Physician, Dept. of Radiology and Nuclear Medicine, OUH
Levy, Finn Olav	Professor, Dept. of Pharmacology, UoO
Louch, William E.	Research Scientist, Inst. for Experimental Medical Research, UoO/OUH
Lunde, Ida Gjervold	Postdoctoral fellow, Inst. for Experimental Medical Research, OUH/UoO
Lunde, Per-Kristian	Research Scientist, Inst. for Experimental Medical Research, OUH/UoO
Qvigstad, Eirik	Associate Professor, Inst. for Pharmacology, UoO
Seljeftot, Ingebjørg	Professor, Center for Clinical Heart Research, Dept. of Cardiology, OUH
Sjaastad, Ivar	Professor, Inst. for Experimental Medical Research, UoO/OUH
Skogestad, Jonas	Medical Research Curriculum Student, Inst. for Experimental Medical Research, UoO/OUH
Stokke, Mathis Korseberg	Postdoc., Lovisenberg Diakonale Hospital and Inst. for Experimental Medical Research, UoO/OUH
Strand, Mari	PhD student, Inst. for Experimental Medical Research, UoO/OUH
Romaine, Andreas	PhD student, Inst. for Experimental Medical Research, UoO/OUH

IEMF = Institute for Experimental Medical Research

IMB = Institute of Medical Basic Sciences

OUH = Oslo University Hospital

UoO = University of Oslo