



## METHODS IN CARDIAC RESEARCH

Tuesday 8 and Wednesday 9 April 2014

At Institute for Experimental Medical Research

Building 7, 4th floor

Oslo University Hospital Ullevål

Course administration: Mathis Korseberg Stokke and Kate Møller Herum

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### Tuesday April 8

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>
<b>Part I:</b>	<b>Methods in Molecular Biology</b>	
09.05-09.20	Gene expression in the heart: Quantitative PCR	<i>Ulla Enger (to be confirmed)</i>
09.20-09.35	Proteins measurements: Western, ELISA, Luminex	<i>Per Kristian Lunde</i>
<b>09.40-10.00</b>	<b>Coffee break</b>	
10.00-10.15	Protein-protein interactions	<i>Cathrine Carlson</i>
10.15-10.30	Protein localization: Immunohistochemistry	<i>Erik Øie (to be confirmed)</i>
10.30-10.45	Cell cultures in cardiac research	<i>Mari Strand</i>
10.50-11.50	<b>Practical Demonstration 1 : Methods in Molecular biology</b>	
<b>12.00-12.45</b>	<b>Free lunch at Ullevål hotell</b>	
<b>Part II:</b>	<b>Cardiac Phenotyping in Small Animals</b>	
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>Guro Valen</i>
13.45-14.00	Contractile function <i>ex vivo</i> : Papillary muscle strips	<i>Qvigstad, Eirik</i>
<b>14.00-14.15</b>	<b>Coffee break</b>	
14.15-15.15	<b>Practical Demonstration 2: Large Animal Surgery in Cardiac Research</b>	
<b>15.15</b>	<b>End of day 1</b>	



## Wednesday April 9

### 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 (to be confirmed)</i>

### 09.15-10.15 Practical Demonstration 3: Methods in Cell Biology

#### 10.15-10.30 Kaffepause

10.30-10.50	<i>In vivo</i> assessment of cardiac electrophysiology	<i>Knut Gjesdal</i>
10.50-11.05	Quantitative assessment of cardiac receptors and intracellular signaling pathways	<i>Finn Olav Levy</i>
11.05-11.20	Detection of cyclic nucleotides and protein-protein interactions: FRET in cardiac research	<i>Kjetil Wessel Andressen</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, Kjersti Johnsrud</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
Enger, Ulla	Research Associate, Inst. for Experimental Medical Research, OUH/UoO
Gjesdal, Knut	Professor, Dept. of Cardiology, OUH
Hopp, Einar	Chief Attending Physician, Dept. of Radiology and Nuclear Medicine, OUH
Kjersti Johnsrud	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, 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	Postdoctoral fellow, Inst. for Experimental Medical Research, UoO/OUH
Strand, Mari	PhD student, Inst. for Experimental Medical Research, UoO/OUH
Valen, Guro	Professor, Dept. of Physiology, IMB, UoO
Øie, Erik	Chief Attending Physician, Diakonhjemmet Hospital / Inst. for Internal Medical Research, OUH

**IEMF = Institute for Experimental Medical Research**

**IMB = Institute of Medical Basic Sciences**

**OUH = Oslo University Hospital**

**UoO = University of Oslo**