

COEUR Course Pathophysiology of Ischemic Heart Disease

Course organizers: Dr. D. Merkus, Dr. E.S. Regar and Dr. H.M.M. van Beusekom

Aim of the program

The program will enhance the PhD-student's understanding of:

- ✓ The relation of coronary structure and function in the normal heart
- ✓ Pathogenesis of coronary atherosclerosis and its relation to coronary hemodynamics
- ✓ Acute and chronic consequences of – and adaptations to – a coronary artery stenosis
- ✓ Value and limitations of various coronary imaging modalities
- ✓ Pathophysiology of ischemia-reperfusion damage
- ✓ Adaptive responses to acute and chronic myocardial ischemia
- ✓ Novel and future therapies of a coronary artery stenosis
- ✓ Novel and future therapies of myocardial ischemia-reperfusion damage

The program will also enhance the PhD-student's skills to critically review research papers, regarding the following topics:

- ✓ Coronary artery stenosis and blood flow distribution
- ✓ Collateral circulation
- ✓ Coronary artery lesion morphology and therapy
- ✓ Myocardial cell therapy
- ✓

This course serves as basis for other modules related to ischemic heart disease and heart failure.

In addition, the PhD student will learn where in the building expertise on these subjects is available

Lectures will be given on Thursday and Friday. Research papers for self-study are included in the course material and should be studied in advance (estimated study load: 16 hours)

Pathophysiology of obstructive coronary artery disease Thursday Morning

08:00- 08:15	Coffee/tea
08:00- 08:15	Introduction and setup of the course
08:15–08:35	The coronary microcirculation: development and anatomy <i>Dr. B. Groenendijk</i>
08:35-08:55	The coronary circulation: function and regulation in health disease <i>Dr. D. Merkus</i>
08:55-09:15	Pathogenesis of coronary disease <i>Dr. H.M.M. van Beusekom</i>
09:15-10:00	Molecular pathology of coronary artery disease <i>Prof. G. Pasterkamp</i>
10:00-10:15	Discussion
10:15-10:30	Coffee/tea break

- 10:30-11:00 Percutaneous coronary intervention in acute coronary syndromes: new insights based on epidemiological evidence
Prof. H. Boersma
- 11:00-11:30 Clinical significance of a coronary artery stenosis
Dr. W. Tonino
- 11:30-12:00 Invasive imaging of coronary artery disease
Dr. E. Regar`
- 12:00-12:30 Non-invasive imaging of coronary artery disease
Dr. R.J. van Geuns
- 12:30-13:30 Working Lunch participant groups (**lunch will be served by COEUR**)
Therapy of Coronary Artery Disease

Thursday Afternoon

- 13:30-14:00 Clinical management of coronary artery disease: lifestyle, medical, PCI, CABG
Prof. M.L. Simoons
- 14:00-14:30 Hemodynamics and its relation to atherosclerosis
Diagnosis: vascular disease or dysfunction
Dr. J.J. Wentzel
- 14:30-15:15 **KEYNOTE:** Strategies to improve cardiac regenerative therapy
Dr. S.A.J. Chamuleau (UMC Utrecht)
- 15:15-15:30 Coffee/tea break or refreshments
- 15:30-16:15 Angiogenesis and myocardial ischemia
Prof. M.J. Post (University, Maastricht)
- 16:15-17:00 Cardioprotection against myocardial ischemia-reperfusion damage: preconditioning, postconditioning and perconditioning
Prof. D.J. Duncker
- 17:00-18:00 Diner served by COEUR and preparation group-presentations participants
- 18:00-19:00 Group –presentations participants
- 19:00-19:15 Course evaluation and selftest