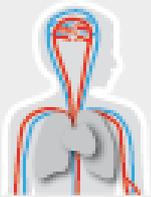


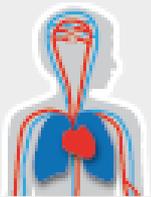
Heart Failure & Arrhythmias



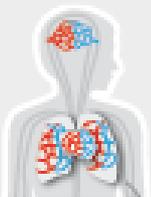
Pulmonary Hypertension
& Thrombosis



Atherosclerosis
& Ischemic Syndromes



Diabetes & Metabolism



Microcirculation

Focus of research group (I)

Name PI: **Carol Ann Remme MD PhD**

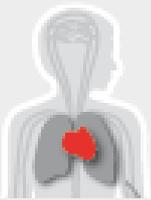
Department, UMC: **Experimental Cardiology, AMC**

Size of research group:

2 postdocs, 4 PhD students, 1 technician

Current mission, vision and aims

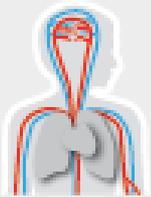
- To identify novel disease mechanisms underlying (inherited) arrhythmias and sudden cardiac death
- To understand (variable) disease expressivity in inherited arrhythmia syndromes using mouse and human disease models
 - ✓ Brugada syndrome, Long QT syndrome
 - ✓ Arrhythmogenic cardiomyopathy (ACM)
- To develop novel therapeutic strategies for preventing (inherited) arrhythmias and sudden cardiac death



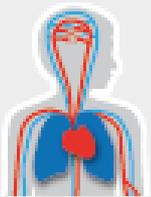
Heart Failure & Arrhythmias



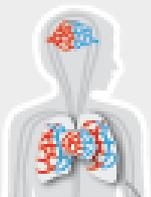
Pulmonary Hypertension
& Thrombosis



Atherosclerosis
& Ischemic Syndromes



Diabetes & Metabolism



Microcirculation

Focus of research group (II)

Current expertise:

- Basic and translational electrophysiology
- *In vivo*/whole heart electrophysiology (ECG, optical/electrical mapping, arrhythmia inducibility)
- Cellular electrophysiology (patch clamp, calcium fluorescence)
- Histology, immunofluorescence, molecular analyses
- Disease models: transgenic mice, human iPSC-derived cardiomyocytes, human atrial cardiomyocytes (AF)

Current funding

NWO-VIDI (Carol Ann Remme)

CVON-eDETECT (Carol Ann Remme, WP leader)

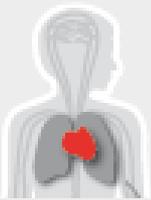
CVON-PREDICT2 (Carol Ann Remme, WP leader, start 1-1-2019)

FONDATION LEDUCQ (Connie Bezzina, Carol Ann Remme)

ACS Out of the Box (Carol Ann Remme, Diederik Kuster)

AMC Foundation (Carol Ann Remme, start 1-1-2019)

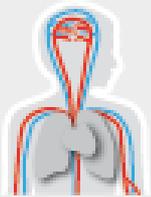
ZonMw Off Road (Vincent Portero, start 1-1-2019)



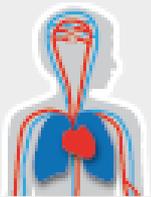
Heart Failure & Arrhythmias



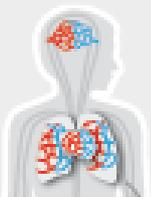
Pulmonary Hypertension
& Thrombosis



Atherosclerosis
& Ischemic Syndromes



Diabetes & Metabolism



Microcirculation

Future plans

Short term (1-2 year) plan

Plan:

- Functional studies of newly identified genes and disease mechanisms (e.g. microtubule network, metabolic pathways)

Necessary infrastructure:

- Larger scale hiPSC facilities
- Imaging techniques
- Medium-throughput electrophysiology (Multi Electrode Array)

Long term (>2 year) plan

Plan:

- Establish (non-)genetic modifiers of arrhythmia risk
- Identify and test new arrhythmia mechanisms and therapies

Necessary infrastructure (in addition):

- Larger scale mouse electrophysiological phenotyping facilities
- High-throughput electrophysiology (automated patch clamp)

Collaboration in ACS

Connie Bezzina, Arthur Wilde, Joris de Groot, Arie Verkerk, Vivian de Waard, Diederik Kuster