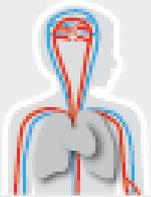


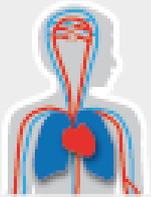
Heart Failure & Arrhythmias



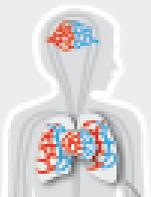
Pulmonary Hypertension  
& Thrombosis



Atherosclerosis  
& Ischemic Syndromes



Diabetes & Metabolism



Microcirculation

# Focus of research group (I)

Name PI: Frances de Man

Department, UMC: Pulmonary medicine, VUmc

Size of research group: 1 post-doc, 1 technician, 9 PhD students

## Current mission, vision and aims

Right ventricular adaptation to increased pressure overload

Specific aims:

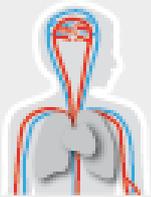
1. What is the contribution of disturbed bone morphogenetic protein receptor signaling in RV adaptation?
2. Is RV adaptation different between male and female PAH-patients?
3. What role does RV diastolic stiffness play in PAH-induced RV failure



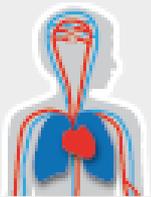
Heart Failure & Arrhythmias



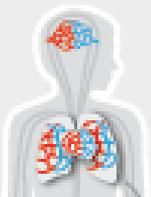
Pulmonary Hypertension  
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Diabetes & Metabolism



Microcirculation

# Focus of research group (II)

## Current expertise

### RV functional measurements

- RV imaging (preclinical and clinical)
- RV pressure volume analyses (preclinical and clinical)

### Preclinical drug studies

- Pharmaceuticals
- Gene therapy

### Histology/protein/RNA analyses

### iPS cardiomyocytes/3D EHT (Aida Lucia-Valldeperas)

### Epidemiology / statistical methodology

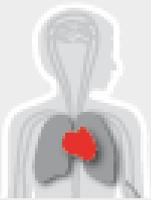
### Current funding

NWO-VIDI

NHS-Dekker Senior post-doc

CVON-PHAEDRA impact

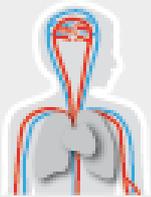
CVON-Dolphin



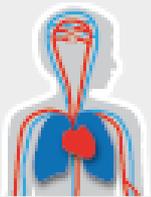
Heart Failure & Arrhythmias



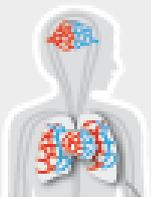
Pulmonary Hypertension  
& Thrombosis



Atherosclerosis  
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Diabetes & Metabolism



Microcirculation

# Future plans

## Short term (1-2 year) plan

Plan:

Determine BMP10 secretion RA-tissue, blood samples

Analyse sex hormones

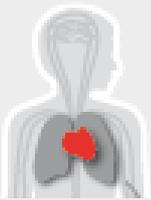
RV diastolic stiffness

Necessary infrastructure:

Post-processing software - CIRCLE

iPS facility (now relying on LUMC)

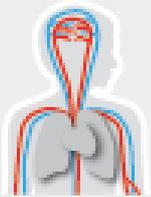
Bioinformatic support (Matlab)



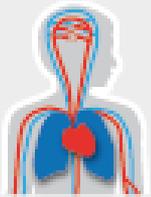
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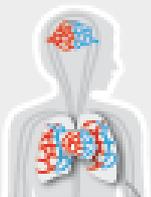
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Microcirculation

# Future plans

## Long term (>2 year) plan

Plan:

Translational research program – improve reproducibility of preclinical evidence before to go to treatment studies

Necessary infrastructure:

Animal facility, animal models

Cell culture models: organ-organ interaction, cell-cell interaction

Molecular imaging: Better support tracer development

## Collaboration in ACS

Physiology – Group of Jolanda van der Velden, Diederik Kuster

Radiology/cardiology – post-processing analyses (feature tracking)

AMC – Gustav Strijkers (preclinical MRI, MR-TDI)

AMC – Geert Boink (gene therapy)