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
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 Llucia-Valldeperas)

Epidemiology / statistical methodology

Current funding
NWO-VIDI
NHS-Dekker Senior post-doc
CVON-PHAEDRA impact
CVON-Dolphin
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)
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)