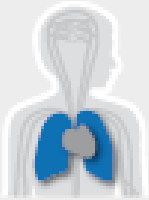
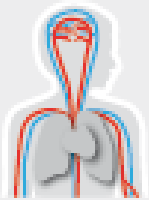


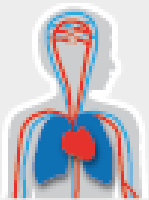
Heart Failure & Arrhythmias



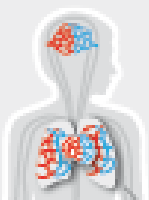
Pulmonary Hypertension  
& Thrombosis



Atherosclerosis  
& Ischemic Syndromes



Diabetes & Metabolism



Microcirculation

# Focus of research group

## Vascular Microenvironment & Integrity Lab

PI: Stephan Huveneers (Medical Biochemistry, location AMC)

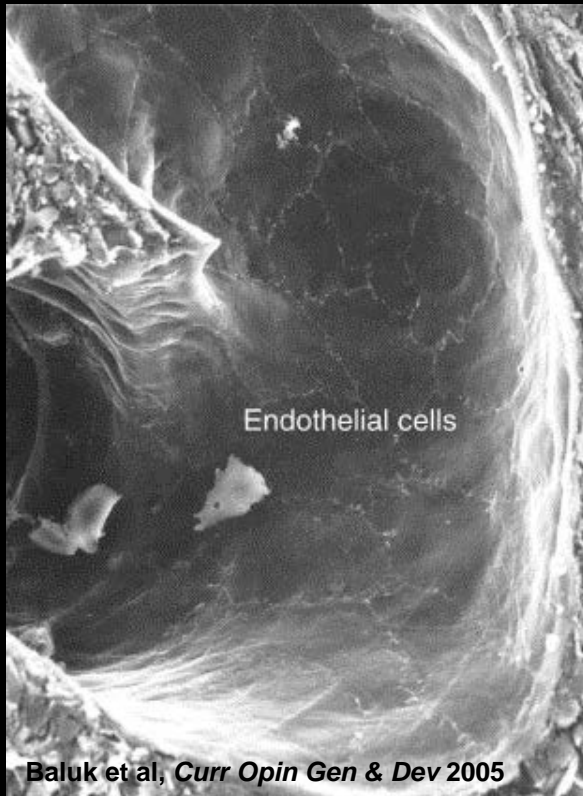
Group: 2 postdocs  
4 PhD students  
1 technician



## Current mission, vision and aims

- Investigating vascular integrity in inflammation and cardiovascular disease.
- Understanding how vascular stiffening controls endothelial adhesions.
- Establishing the importance of cell-cell junctions for collective cell behaviour in angiogenesis.
- Elucidating the endothelial role in Sturge-Weber syndrome.

# Vascular endothelium: a regulated barrier

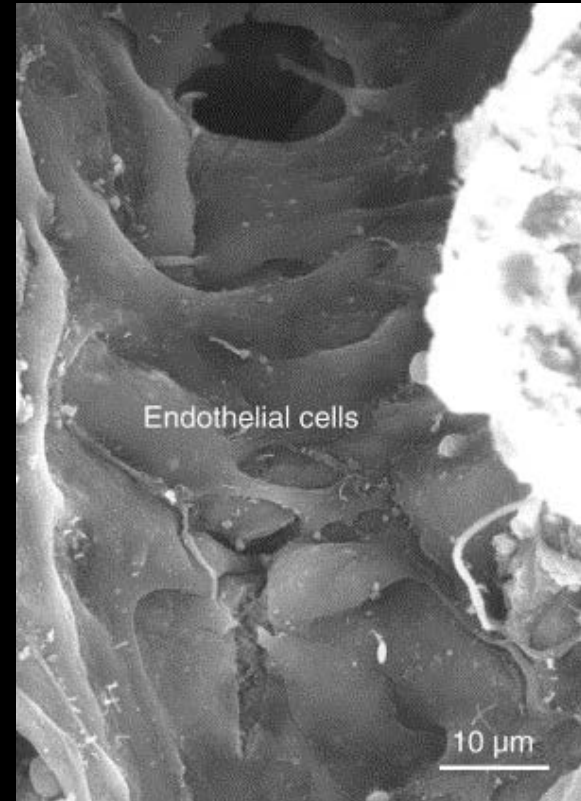


**Healthy vessel**

**Stiffening**

**+**

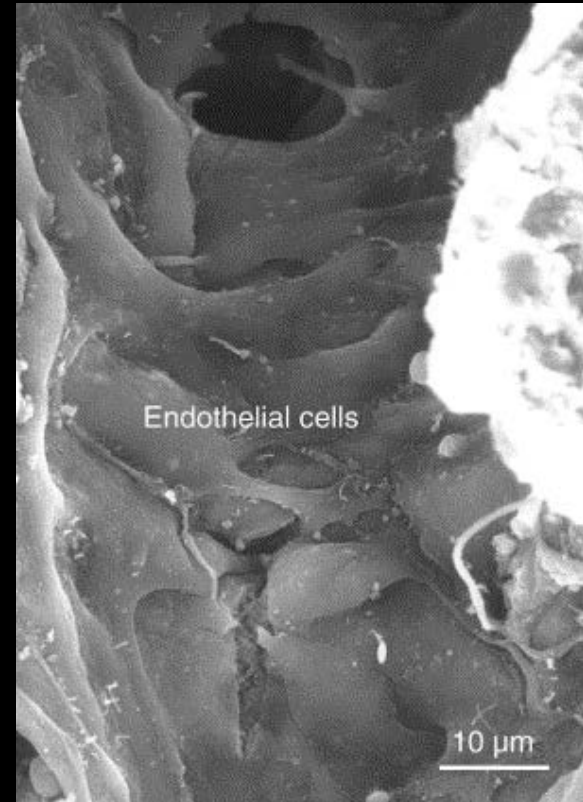
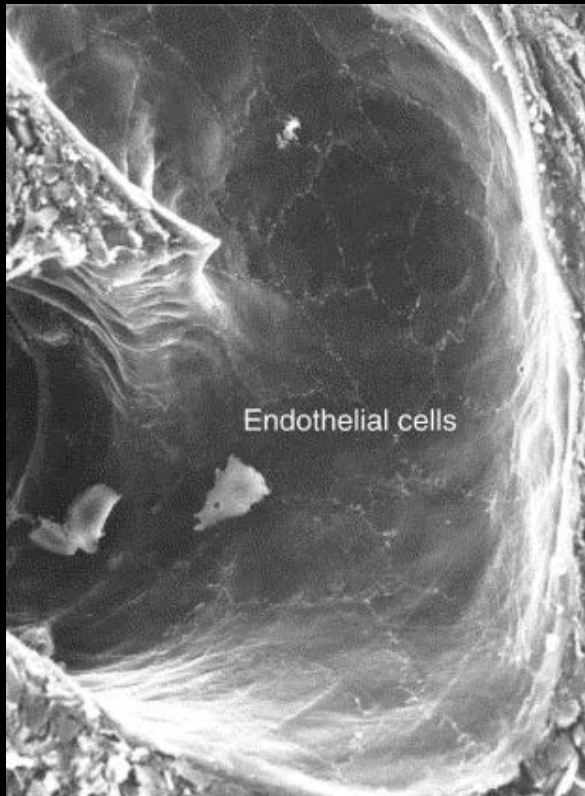
**Disturbed  
Flow**



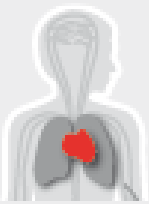
**Leakage and inflammation**

**Vascular diseases**

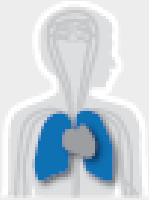
# Restore healthy endothelial function



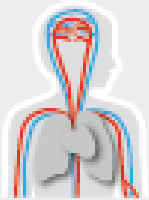
How does the endothelium respond?



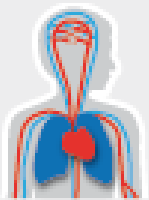
Heart Failure & Arrhythmias



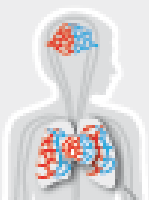
Pulmonary Hypertension & Thrombosis



Atherosclerosis & Ischemic Syndromes



Diabetes & Metabolism

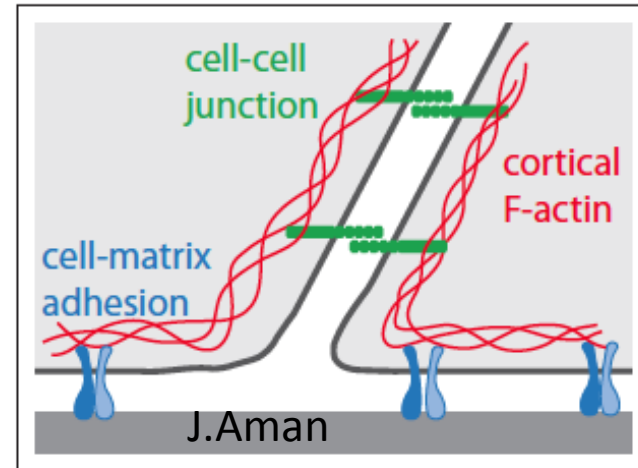


Microcirculation

# Focus of research group

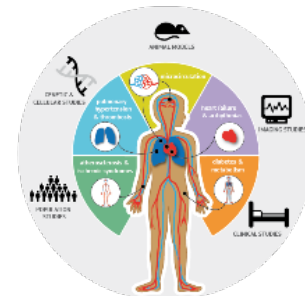
## Current expertise

Mechanobiology  
(integrins/cadherins)

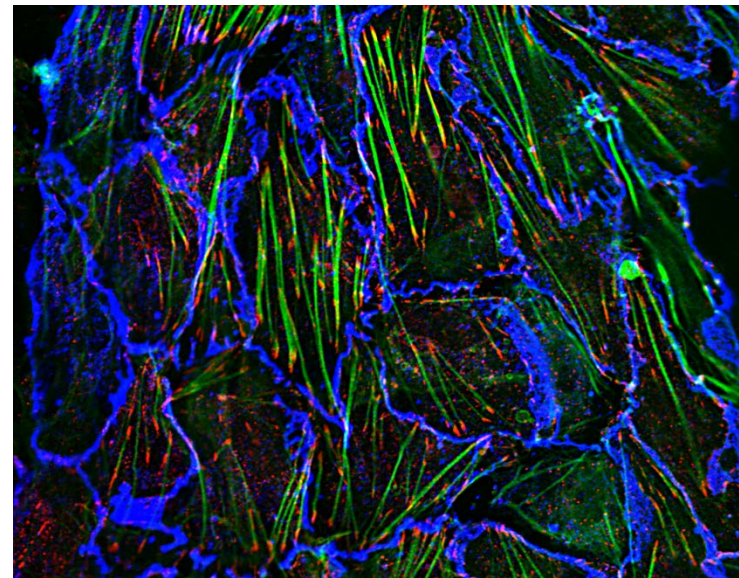
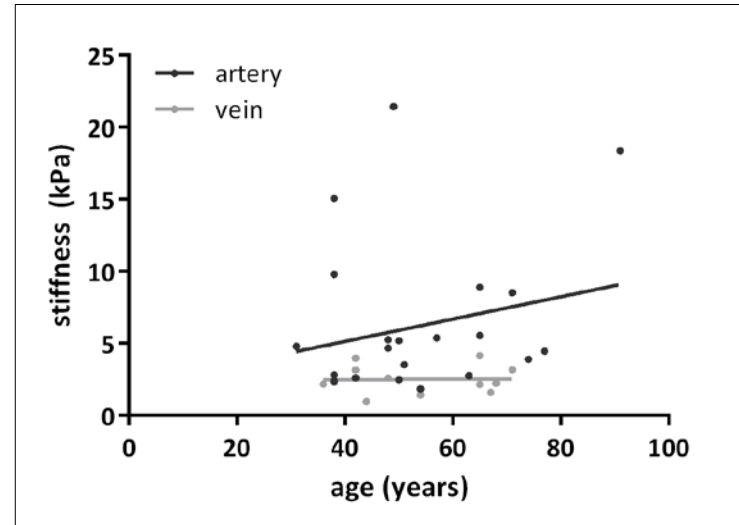
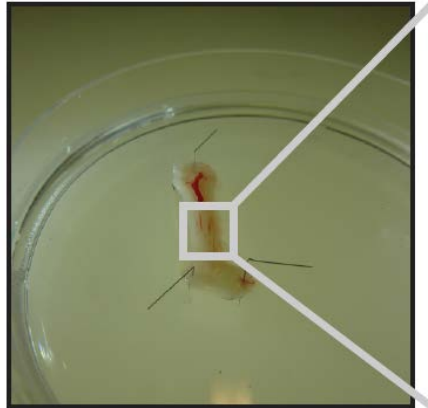


Vascular cell biology and advanced live cell imaging

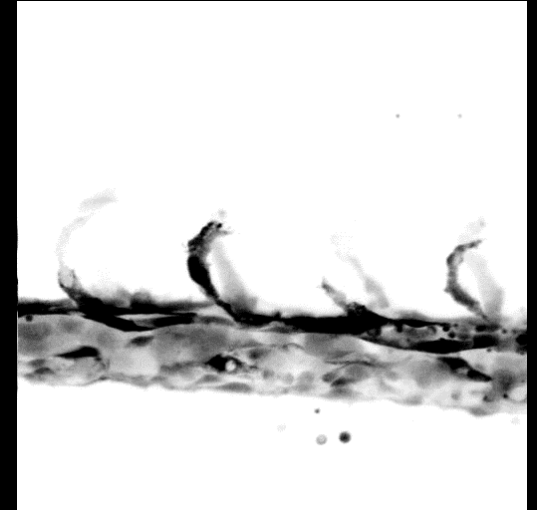
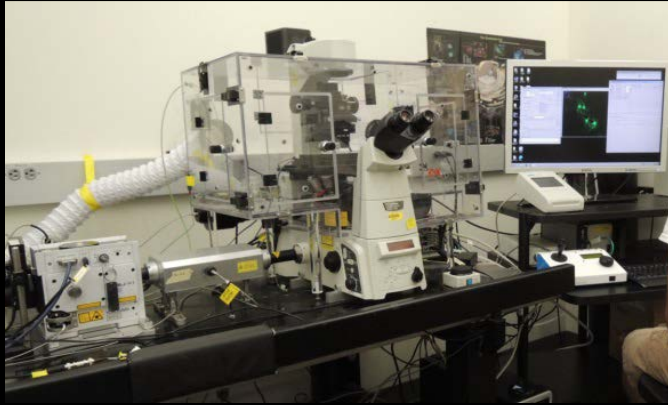
## Current funding



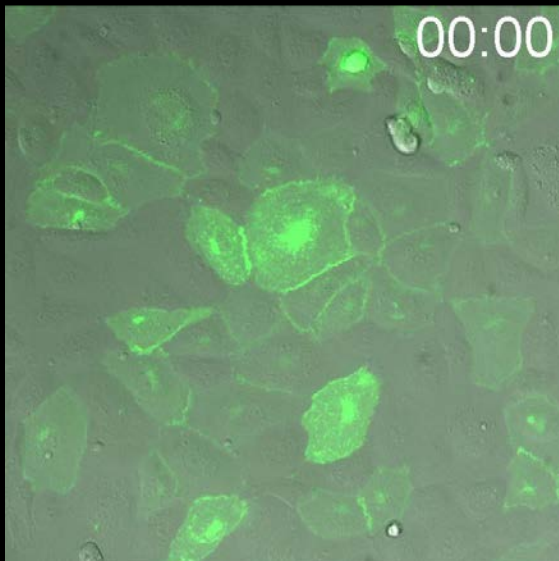
# En face microscopy of blood vessels



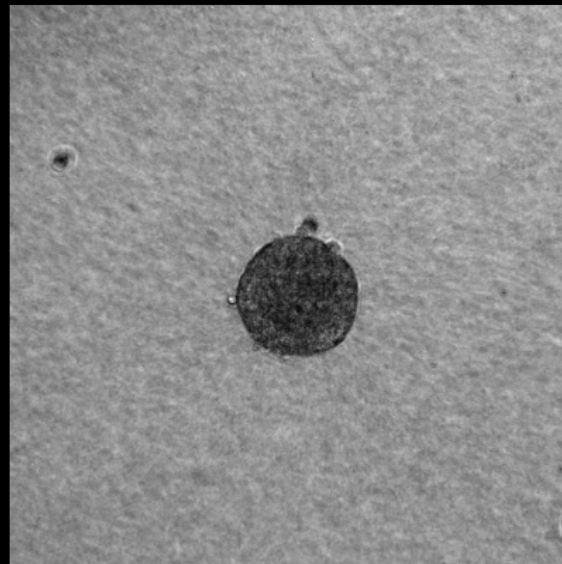
# Live imaging of the endothelium



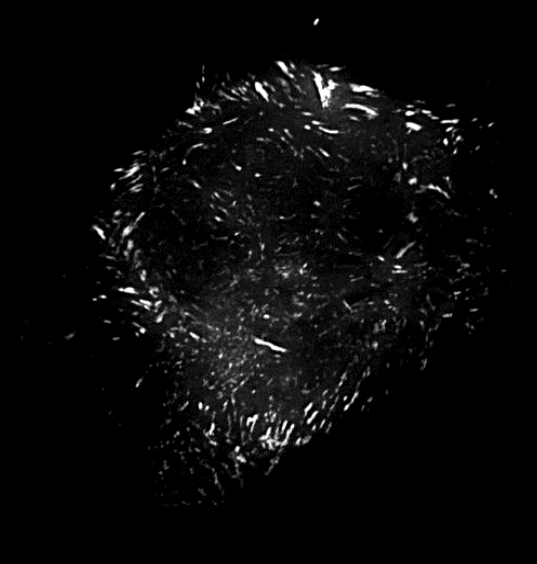
Zebrafish Vasculature



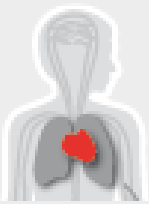
Endothelial barrier



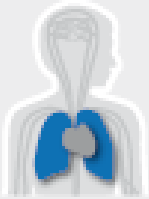
Sprouting angiogenesis



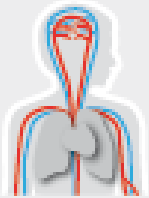
Integrin adhesion dynamics



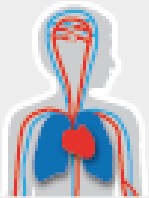
Heart Failure & Arrhythmias



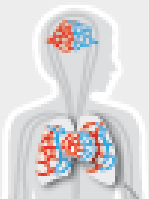
Pulmonary Hypertension  
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Diabetes & Metabolism



Microcirculation

# Future plans

## Short term (1-2 year) plan

Plan: Demonstrate novel endothelial mechano events.

## Long term (>2 year) plan

Plan: Identifying attractive targets to improve endothelial function in disease

Necessary infrastructure:

mass spectrometry

Innovate live imaging platforms

patient derived tissue

## Collaborations in ACS

Reinier Boon

Peter Hordijk

Jurjan Aman

Mat Daemen

Noam Zelcer

Esther Lutgens

Vivian de Waard

Carlie de Vries

Ewelina Kluza

Jaap van Buul

Core Facility