

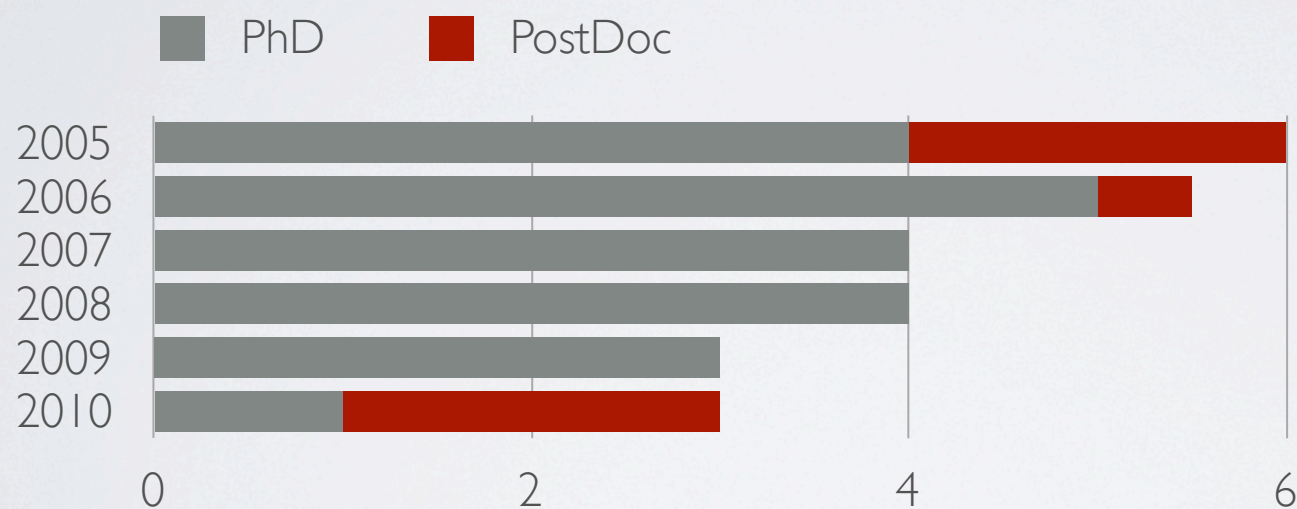
INS3 : 2005-2010

VISUALIZATION AND 3D USER INTERFACES

GROUP LEADER: PROF. R. VAN LIERE
CLUSTER: INFORMATION SYSTEMS
SOCIETAL THEME: DATA EXPLOSION

COMPOSITION

- Senior staff: R. van Liere



- Advisor : Prof J. van Wijk (TU/e)

RESEARCH AREA

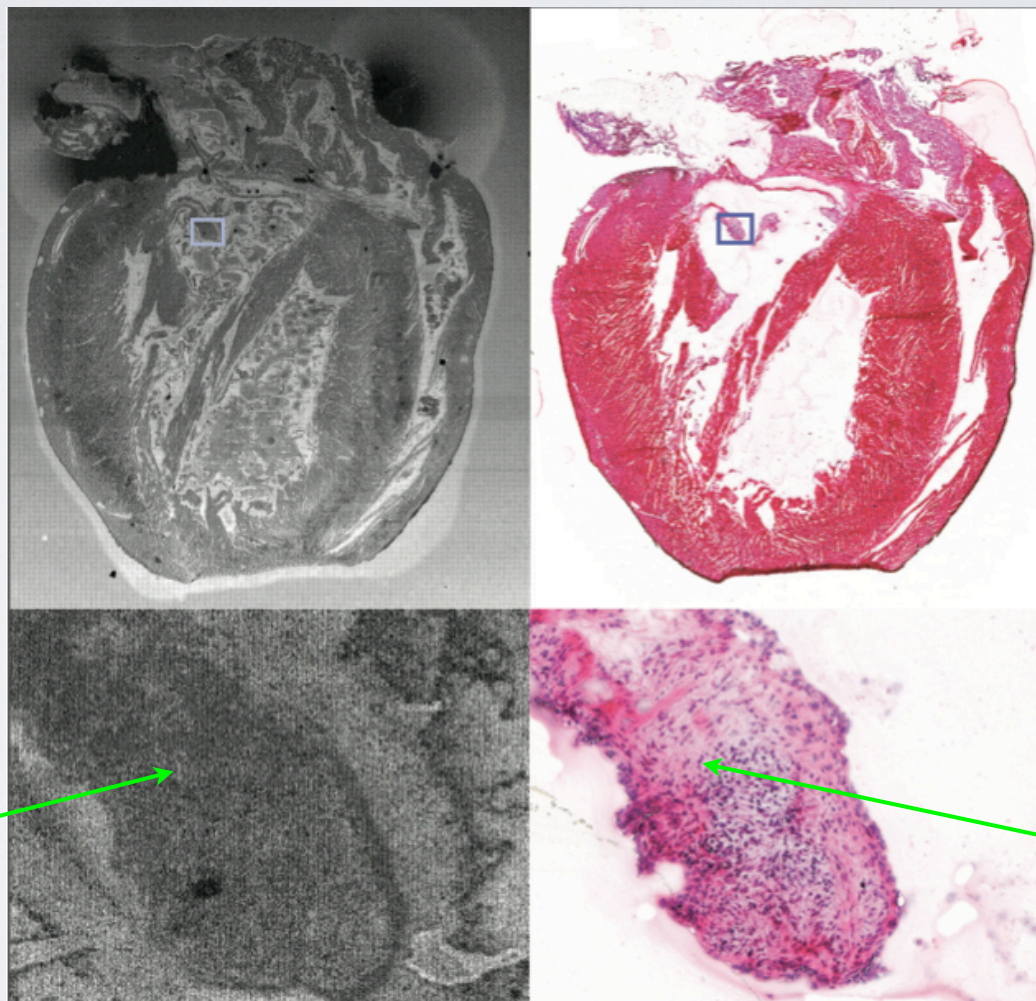
- Scientific Visualization and 3D user interfaces
 - large, multi-modal, multi-scale data sets
 - microscopy in the life sciences

- Long term goals:
 - Visual Analytics for microscopy
 - 3D interactive spaces for scientific visualization

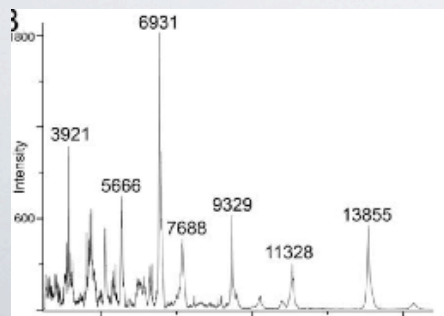
EXAMPLE MOLECULAR 3D MAP OF HEART

Image Mass Spectrometry

Stained Images



Mass Spectrum



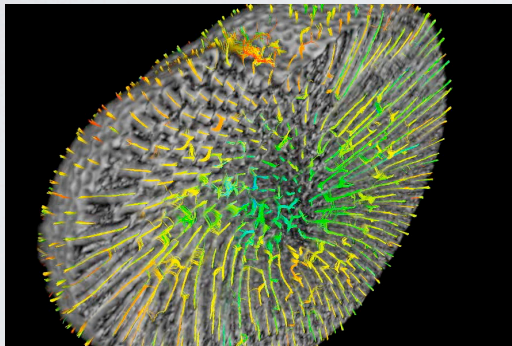
Cell Nucleus

ACHIEVEMENTS

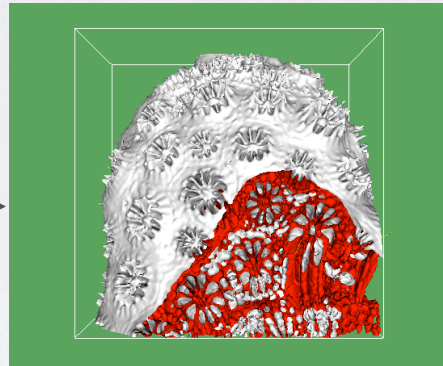
- 4 PhDs as 1st promotor, 1 PhD co-promotor
- 16 journal, 32 proceeding publications, 1 book
- P.I. of 5 NWO / BSIK funded projects
- Spin-off : PS-tech in 2005, currently 12 fte

CURRENT CHALLENGES

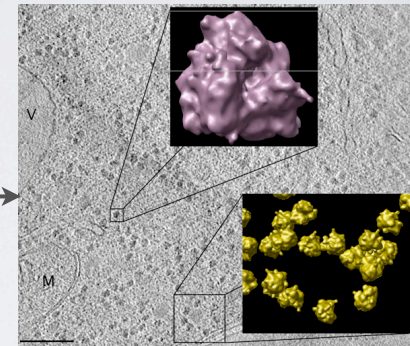
- Interactive multi-level visualization
 - Our approach: multi-scale data modeling



CT ~ 1 mm



μ CT ~ 1 μ m



EM ~ 5 nm

Is this approach also applicable in other domains?

SWOT

- Strength : Internationally visible. Multi-disciplinary projects
- Weakness : One senior, this has hampered growth potential
- Opportunities : Visual analytics for data intensive research (eg microscopy, software)
- Threats : Funding for multi-disciplinary projects. Qualified personnel

STRATEGY

- Leverage knowledge from visual analytics for microscopy to other domains
- New partnerships within computer science
 - Visual analytics for software engineering
 - “One-stop shop” with SENI