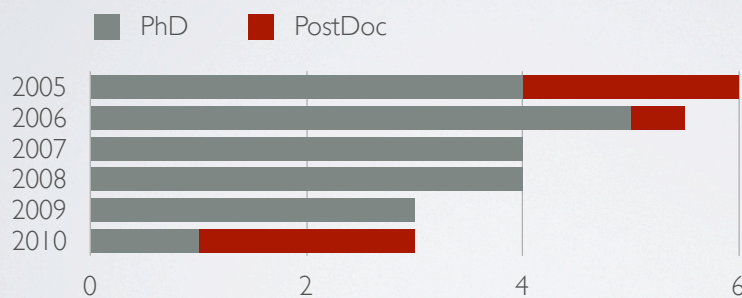# INS3 : 2005-2010

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)
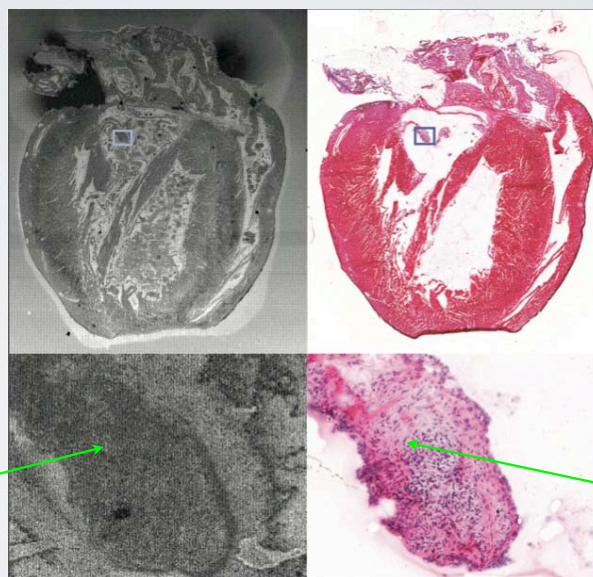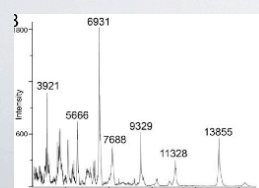
RESEARCH AREA

- 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
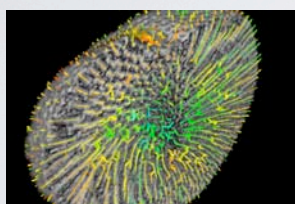
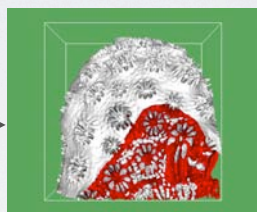**High Resolution 3D Imaging Mass Spectrometry, CWI-AMOLF**

ACHIEVEMENTS

- 4 PhDs as 1st promotor, 1PhD 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
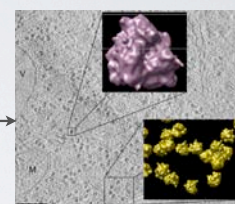

CURRENT CHALLENGES

- Interactive multi-level visualization

  - Our approach: multi-scale data modeling

CT ~1 mm   μCT ~ 1 μm   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 SEN1