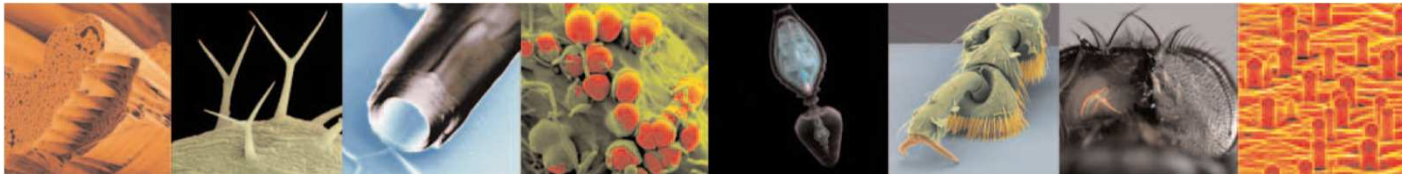


The Röntgen-Ångström-Cluster

Excellence Region for
„Materials Research and Structural Biology in Northern Europe“



2009-2017
8 Years of Cooperation in

RESEARCH



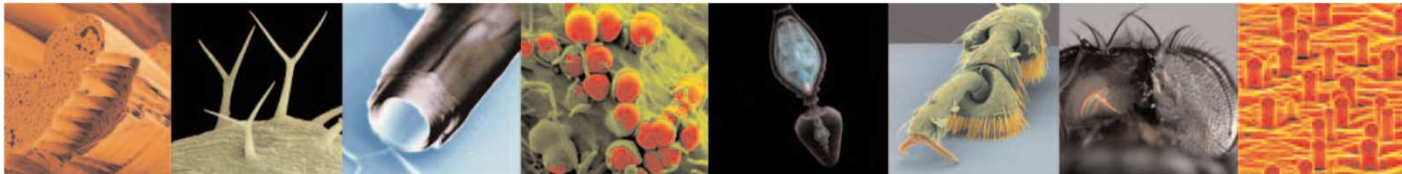
EDUCATION



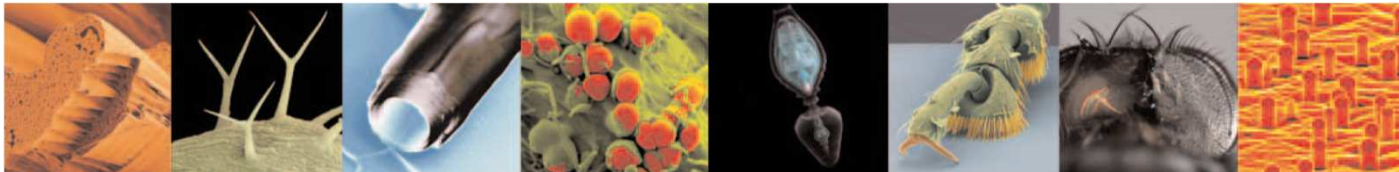
INNOVATION



The Röntgen-Angstrom-Cluster
Excellence Region for
„Materials Research and Structural Biology in Northern Europe“



Existing science institutions in Northern Germany and Sweden, like DESY, GKSS and Helmholtz-Zentrum Berlin (HZB) and e. g. Lund University and the Karolinska Institute Stockholm as well as their cooperation partners, provide an excellent basis for establishing – together with the existing and planned photon sources PETRA III, FLASH, BESSY II and MAX-lab IV and the BER II research reactor – a leading scientific environment for research using neutron and synchrotron radiation in such fields as materials and structural biology research.



2009

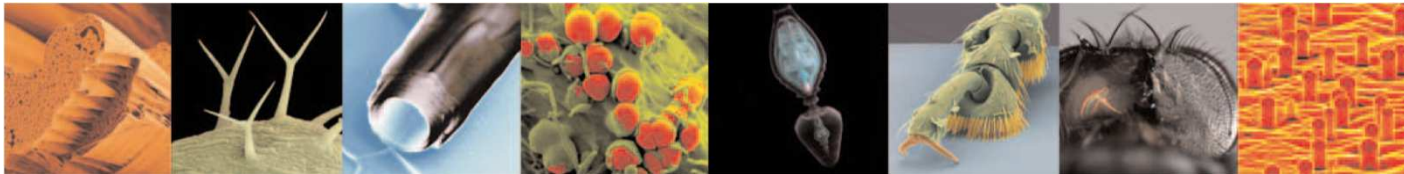
**Memorandum of Understanding
between
the Federal Ministry of Education and Research
of the Federal Republic of Germany
and
the Government
of the Kingdom of Sweden**

**Cooperation in materials research and structural biology
using neutron and synchrotron radiation**

I. Objectives

The aim of this Memorandum of Understanding is to strengthen research using neutrons and photons in **materials and structural biology research** and to promote the efficient use of large facilities available in the region. In addition, the two countries will support each other in the preparation and construction of the planned large facilities, the **X-ray laser XFEL** in Hamburg and the **spallation neutron source ESS** in Lund. In the interest of both sides, the Swedish-Northern German region will thereby be developed to become a scientific excellence region that is unique and internationally visible in these research fields. Its name will be *"Röntgen-Angström Cluster"*.

RAC Pillars



RAC Research Infrastructures

European Lead Facilities

International Pioneer Facilities

1st SASE X-ray Laser

FLASH.

Free-Electron Laser FLASH



European
XFEL
Facility



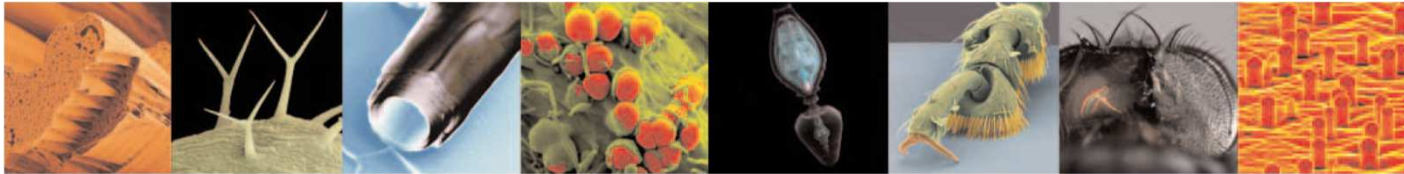
European
Neutron
Facility

1st MBA Storage Ring



Berlin

Stoc



Resume Dosch: RAC has delivered !

RIS Development

XFEL: well on track with a reliable Swedish-German relationship

ESS: on the way with a visible German contribution

MAXIV: operational MBA pioneer facility

PETRA III S-beamline delivered

Project Funding (2011-2013-2015) **37,4 Mio**

Bilateral project funding through VR and BMBF

53 Swedish-German research projects

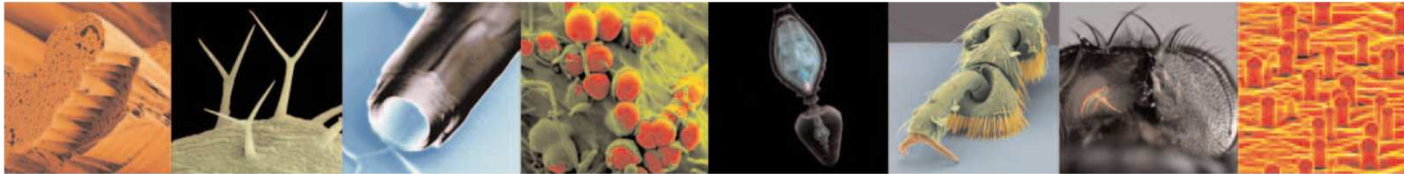
Education and Training **2,3 Mio**

RACIRI Summerschool

MATRAC School in Materials Engineering

Young Scientist Promotion

RAC has become a trademark worldwide.



Future Importance of RAC (German View)

Sweden = key partner in Europe for development of RIS

RAC = role model for scientific cooperation with flexible project funding

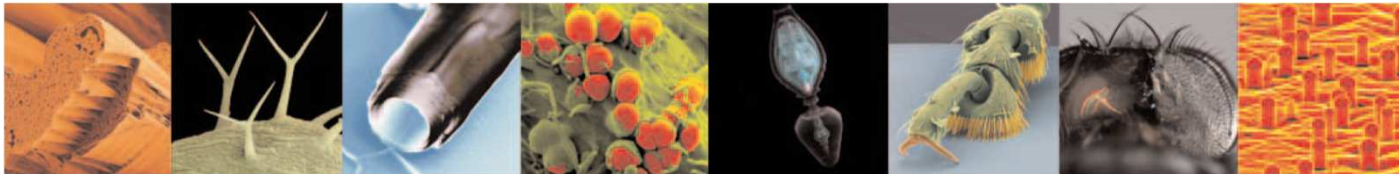
Potential of RAC will become even stronger in the coming decade
(XFEL, ESS, MAXIV, PETRA IV, BESSY II, FLASH)

RAC stands for Cooperation in Science

in favour of knowledge
in favour of openness
in favour of Europe

against alternative facts
against isolationism
against D.T.





Future Role of RAC (German View)

RAC should -

- set the frame of the next period of cooperation
- define priority areas of cooperations („lighthouse projects“)
Catalysis, Advanced Materials, Water Research,
- aim to integrate Denmark
- invite Baltic Sea countries as associates

Stockholm - Hamburg

a special relationship



Swedish - German Cooperation Trade – Culture – Sports - Science



DEUTSCHLAND vs. SCHWEDEN

10 300.000

Anzahl freilebender Elche

HeSweden.com



VIP Cooperation



Science and Innovation

PARADÖX **play table and chair**

3x 4x 64x 7x 16.5x 1x

howtobeadad.com

IKEA product recall.

Erroneous left-handed allen key. Correct right-handed allen key.



Berlin

