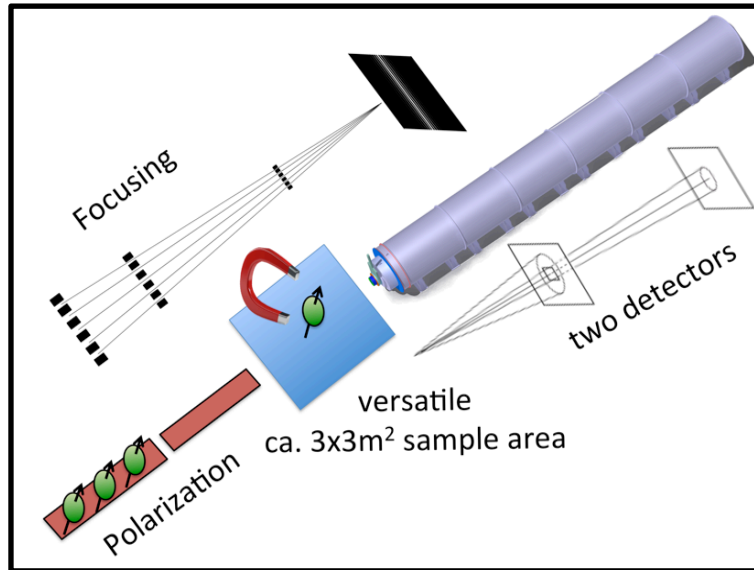




SKADI Overview and Description

Small-K Advanced Diffractometer

17 March 2015 | Sebastian Jaksch
Jülich Centre for Neutron Science at MLZ



SKADI

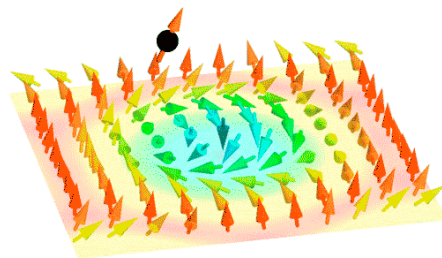
- Small-Angle Neutron Scattering instrument for the investigation of hard and soft matter samples
- 20 m collimation + 20 m sample detector distance
- two detectors for higher Q-range
- Focusing option for higher resolution
- polarization for magnetic samples

Team

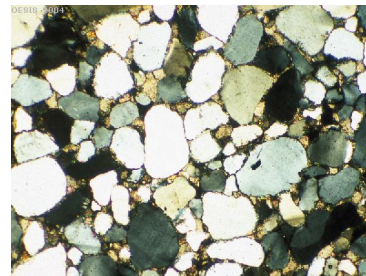
Sebastian Jaksch, FZ Jülich, Germany
 Henrich Frielinghaus, FZ Jülich, Germany
 Romual Hanslik, FZ Jülich, Germany
 Jacques Jestin, LLB, France
 Annie Brûlet, LLB, France
 Sylvain Désert, LLB, France

Design Goals

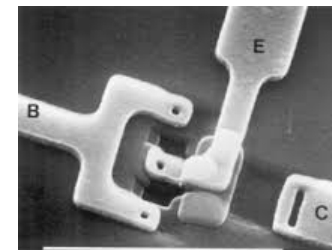
- **Flexibility** (sample area is approx. 3x3 m², and versatile collimation) for custom sample environments
- **Very small Q** by focusing optics, for accessing length scales in the μm range
- **High dynamic Q-range** covering three orders of magnitude simultaneously
- **Polarization** for magnetic samples
- **High time-resolution** together with Q-range will allow for the in-situ investigation of fast, non-reversible processes in a single measurement



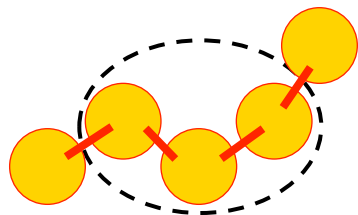
Magnetic Systems



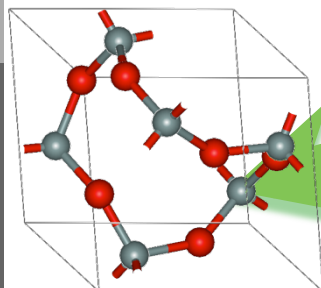
Geological Studies



Electronics



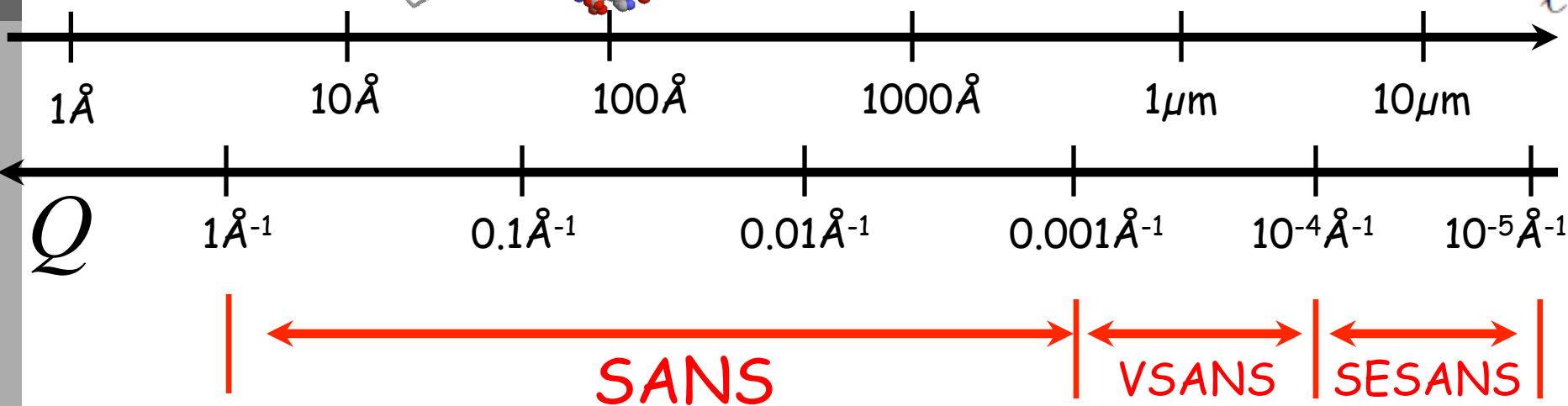
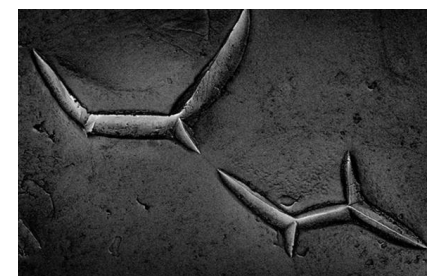
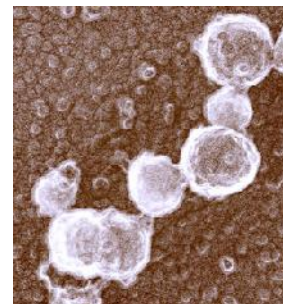
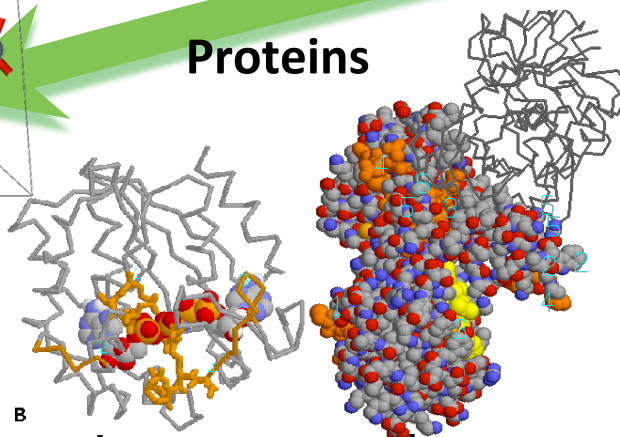
Polymers



Proteins

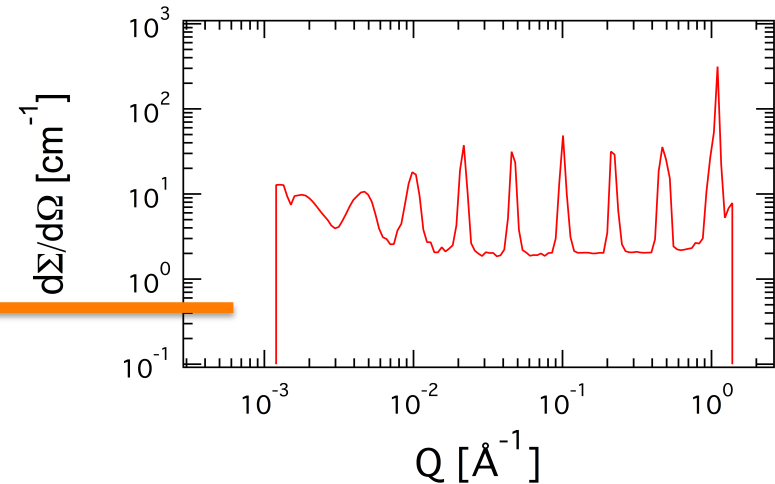
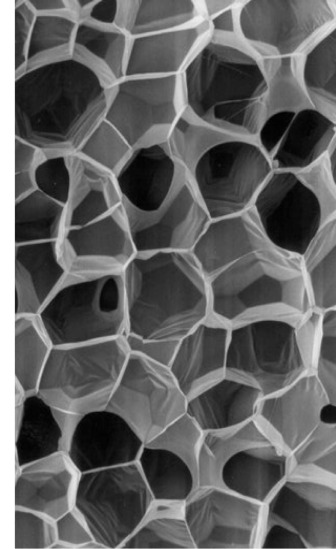
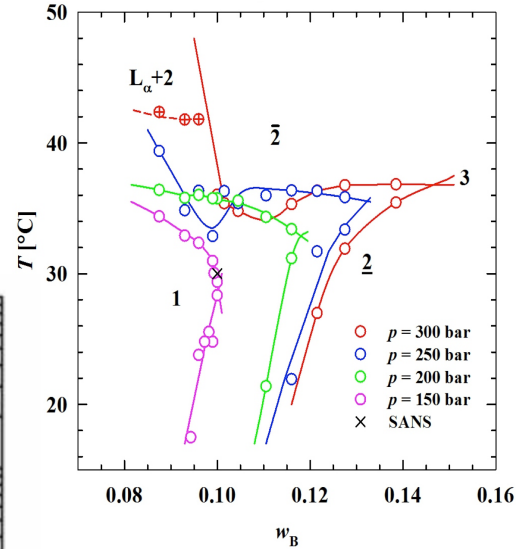
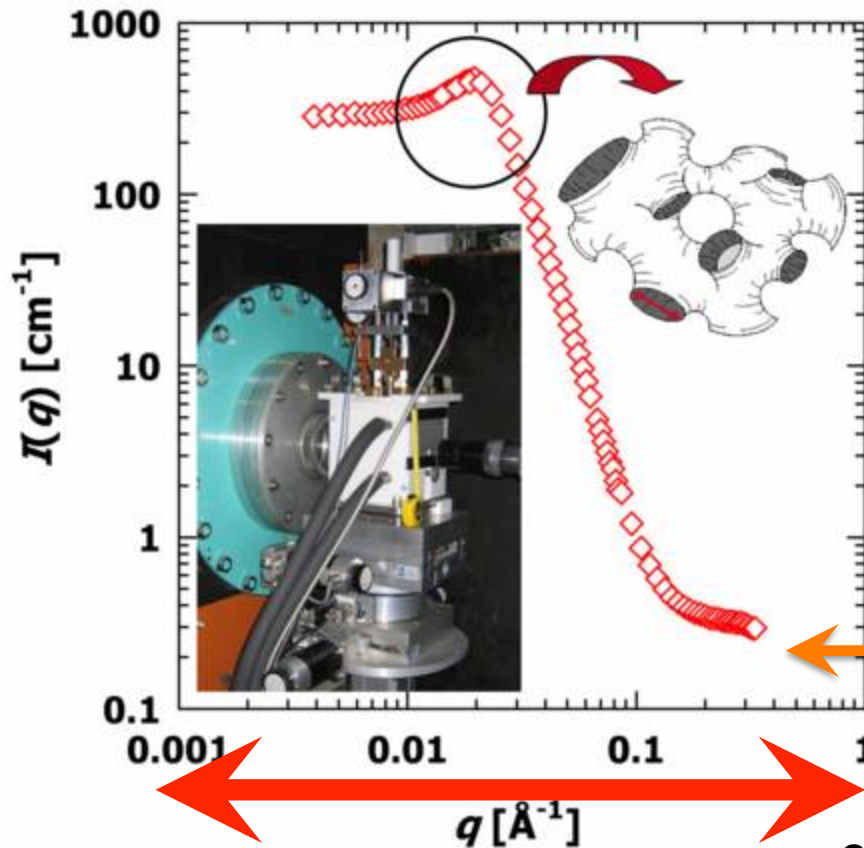
Viruses and Cells

Food Science



Fast Kinetics in Nanofoams: High Resolutions at Short Times

Release pressure from
super-critical CO₂ microemulsions
with instantaneous polymerization



Courtesy of (Sottmann, Klemmer, Strey: U Köln)

Flexibility: 3x3 m² Sample Area

- Plenty of available space
- Custom sample environments
- Fast change of sample environment
- Crane/forklift accessibility

