Synchrotron scattering at BASF

European Light, Neutron and Muon Sources for Industrial Innovation

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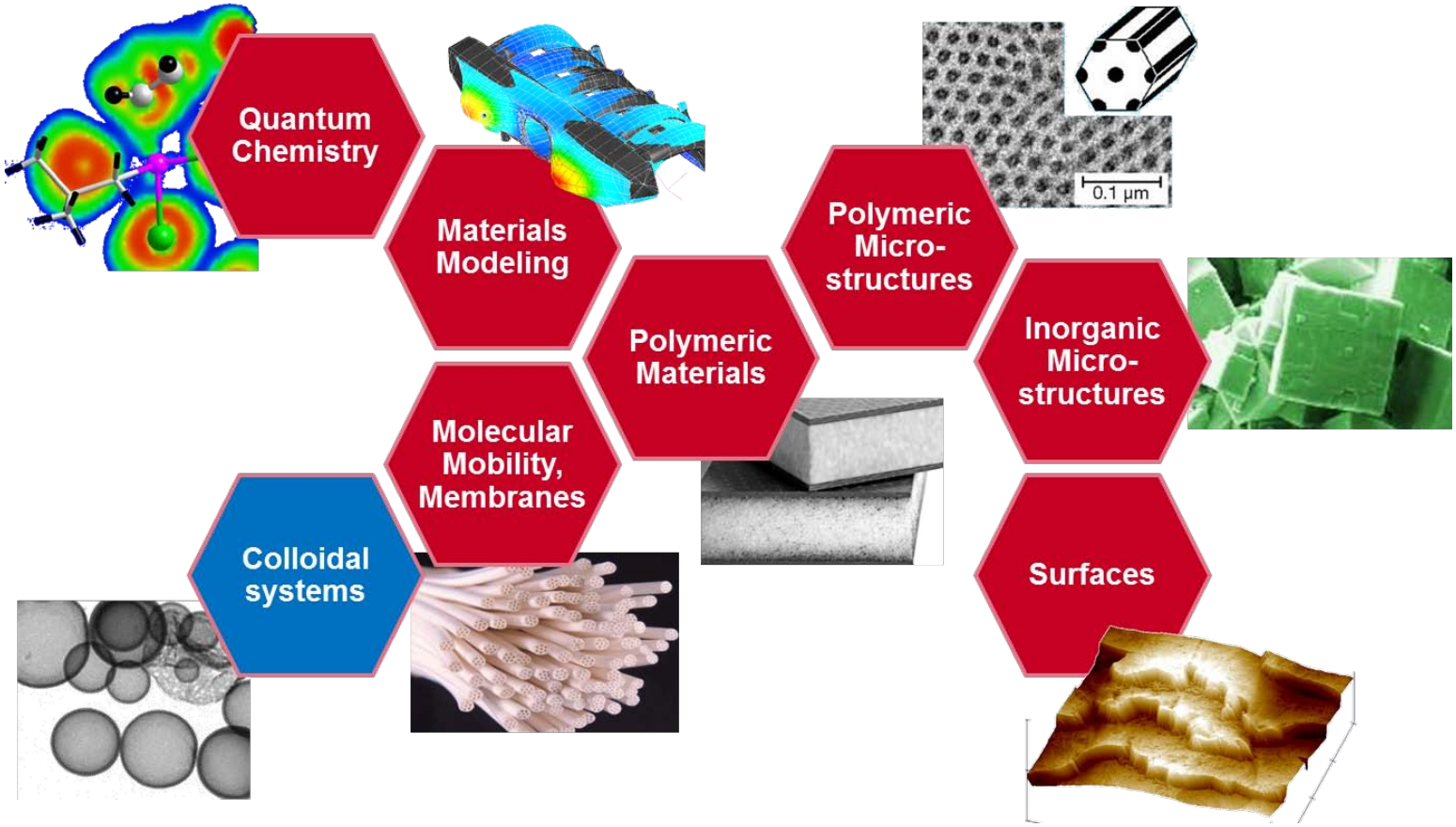
Material Physics Specialist Areas



- SA Colloids includes scattering, charge characterization, rheology and fractionation techniques
- 4 Scientists and 10 technicians
- Mission of SAs is to provide the understanding of applications problems instead of experimental testing

General comments

- Strong internal R&D, Physics + Analytics ~ 600 staff
- Most of the problems require involvement of several experimental techniques
- Synchrotron or neutrons are must to have only in few cases
- Good knowledge of synchrotrons capabilities distributed at least over 3 persons (scattering, diffraction and imagining)
- Usually full experimental service (samples by mail results by email) is required
- Able to evaluate the data by ourselves to some extent

Our relation to neutrons

- To expensive to be not successful
- Efficiency per sample is comparably low
- Significant experiment preparation effort (deuteration and qualification of deuterated samples in the application tests, matching experiments etc.)
- Internal approval without prove of concept
- Suitable only for long term fundamental applied studies
- Evaluation of the data is time consuming
- Outsourcing into academia, beam time via scientific proposals
- Wiliness to publish before experiment 60%
- Evaluation of US industrials programs next year

Our relation to X-rays

- Reasonable prices
- Per sample efficiency is high
- Prove of concept can be done within running projects
- 1 month from idea to experiment
- Can be used for screening purposes
- Outsourcing into academia in the case new structural model is required
- Wiliness to publish before experiment is 0%, 80% after 2 years
- ESRF model fits perfectly to our requirement