Offline Platforms and Instruments@DESY

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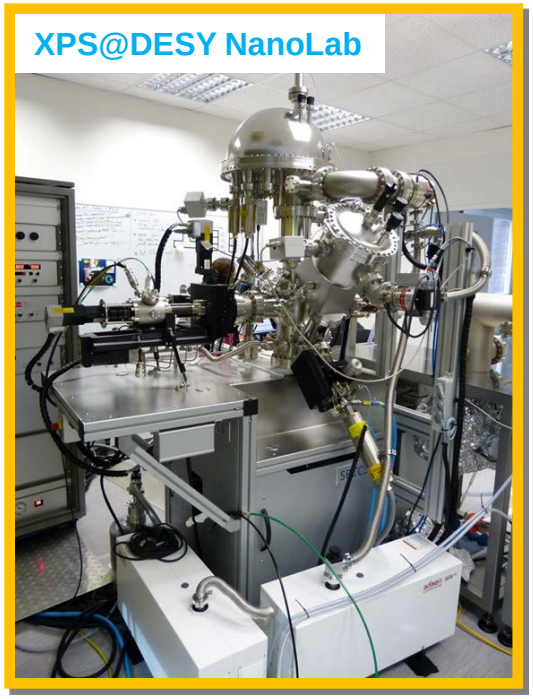
DESY Photon Science User Office

DESY NanoLab

> operated by DESY Research Group ***X-ray physics and nanoscience*** as facility for users and for in-house research

> mainly complementary to experiments at PETRA III, FLASH and X-FEL (especially with nano-focused X-ray beams)



Equipment

- Sample Preparation→ Growth and load lock chambers
- X-ray photoelectron spectroscopy (XPS)
- High resolution Field Emission SEM
- Reflectometer
- Diffractometer
- AFM
- Ultra-high vacuum-reflection absorption IR spectroscopy (UHV-RAIRS)
- Variable Temperature UHV Scanning Tunneling Microscope (UVH-STM)

DESY NanoLab: Access

Open for:

- **External users** in the framework of accepted proposals or “around” beamtimes
- Support of **DESY in-house research** (collaborative / contributive level)
- European users in the framework of novel access program nano + X-rays **NFFA EUROPE** (Nano Foundries and Fine Analysis)
- **XFEL users** on collaborative level, full access depending on negotiations with XFEL GmbH

Workflow

- Users request access to DESY NanoLab in the proposal with short explanation
- DESY NanoLab checks feasibility in course of internal review
- After allocation of beamtime DESY NanoLab is informed about successful proposals and beamtime dates
- Access is scheduled “offline” (no scheduling via DOOR yet, to be implemented)
- Support by DESY NanoLab staff

http://nanolab.desy.de/

DESY Chemistry & Biology Labs

- **Chemistry Labs** → DOOR registration 4 weeks before beamtime
  - 4 labs with standard chem lab equipment, thereof one clean room

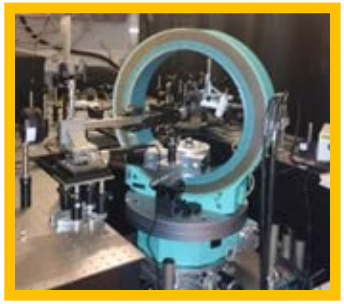
- **Biology Lab** (S1 & S2) → DOOR registration 4 weeks before beamtime
  - Safety workbench S2 (Berner Claire B-2-130)
  - CO_2 incubator for cell culture at 37°C (Panasonic MCO-170A1CUV)
  - Hot-cold incubator with orbital shaker for microbial or marine cell cultures
  - Centrifuge big 30000 g
  - Olympus IX-83 inverse fluorescence microscope
  - Autoclave …..

- **Biology Lab@P11** (S1 & S2)
  - Leica 205C stereo microscope with micromanipulator
  - Nikon fluorescence microscope
  - sterile work bench, autoclave, CO_2-Incubator
  - ….

Laser & High Pressure Laboratories

- part of the **E**xtreme **C**ondition **S**cience **I**nfrastructure (ECSI) P02.2 ECB
- in medium term it is planned to open it to more users
- The **Laser Lab** is separated in two areas
  - ECSI cl1
    - Ruby offline system
    - Raman Spectrometer
    - Laser micro machine
  - ECSI cl4
    - Laser heating offline systems
    - Brillouin spectrometer

- **High Pressure Laboratory**
  - Gas loader
  - Micro drilling machine
  - Microscope
  - Fume hoods for Be handling
  - Micro electric discharge machine



- Access on short notice as required → safety training and DACHS card

Further….

> **Beamline Labs**

→ related to beamtimes, access in agreement with beamline staff

> **equipment@individual beamlines**

various microscopes, infrared spectrometer, lab tomograph, laser heating, Brillouin spectrometer, Ruby fluorescence system, Raman spectrometer, …..

→ selectable in proposal via Beamline Specification

> **instruments @ beamlines**

→ related to proposal – registration via DOOR *special instrument proposal*

- Atomic Force Microscope (P01, P08)
- Pump-probe laser @P08
- Mobile X-ray tube
- planned: Large Volume Press (P61)

- PIPE (Photon-Ion-Spectrometer at PETRA III – P04) (application in proposal)