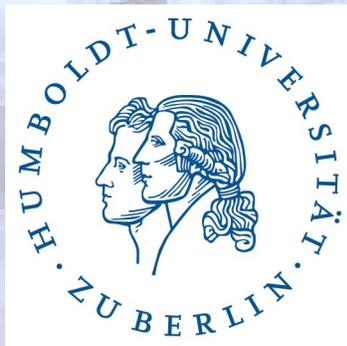


**Joint Laboratory for Electron Microscopy
Humboldt University Berlin & Leibniz Institute for Crystal Growth**

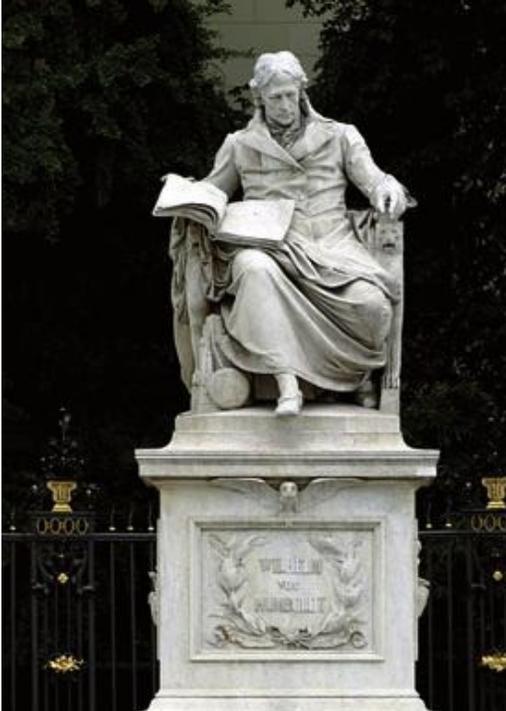
**International Workshop
“*Facets of Electron Crystallography*”
Berlin, Germany
7-9 July 2010**



Humboldt – Universität zu Berlin

1810 – 2010

200 years university „Alma mater berolinensis“



The founder of the university

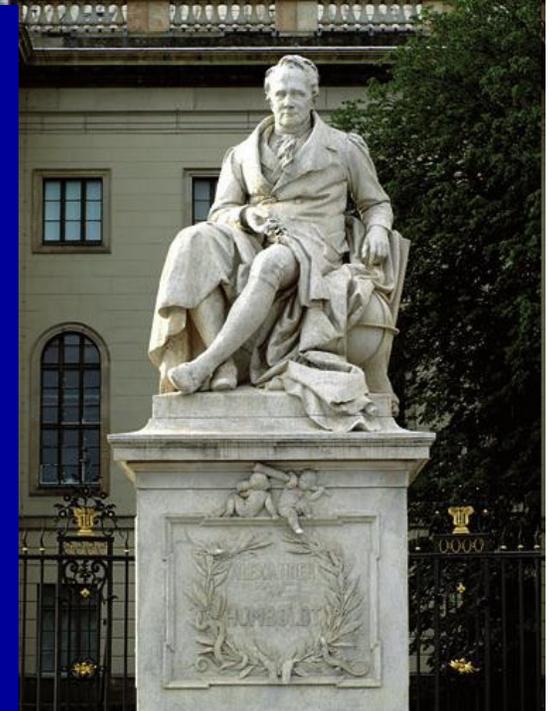
Wilhelm von Humboldt

(1767 - 1835)

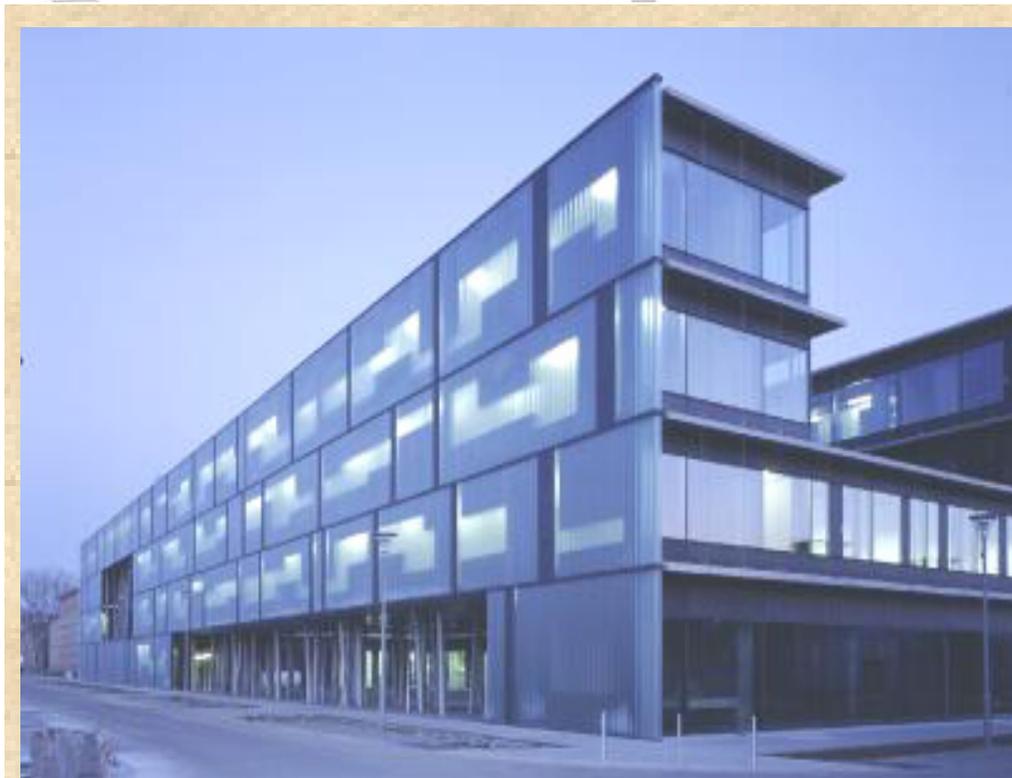
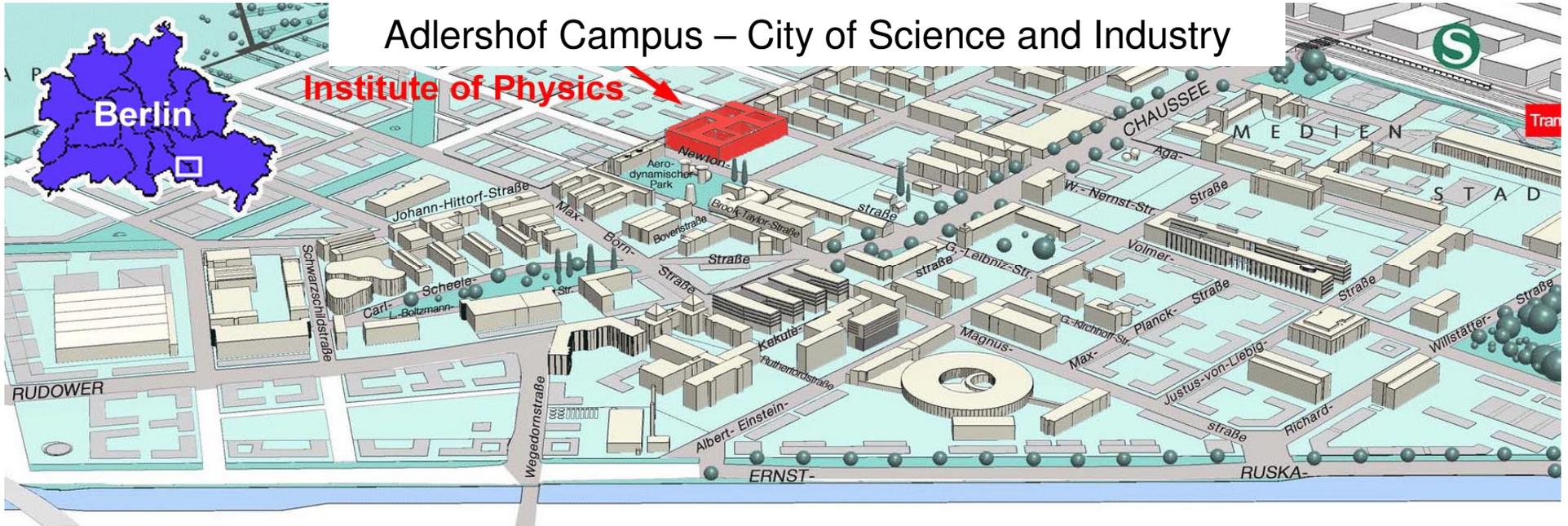
Natural scientist

Alexander von Humboldt

(1769 - 1859)

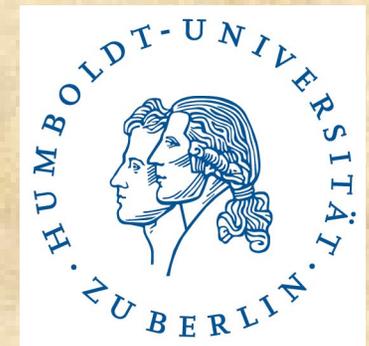


Adlershof Campus – City of Science and Industry



Humboldt University of Berlin
Institute of Physics
Chair of Crystallography

Newtonstrasse 15
D-12489 Berlin
Germany



Joint Laboratory for Electron Microscopy Adlershof (JEMA)

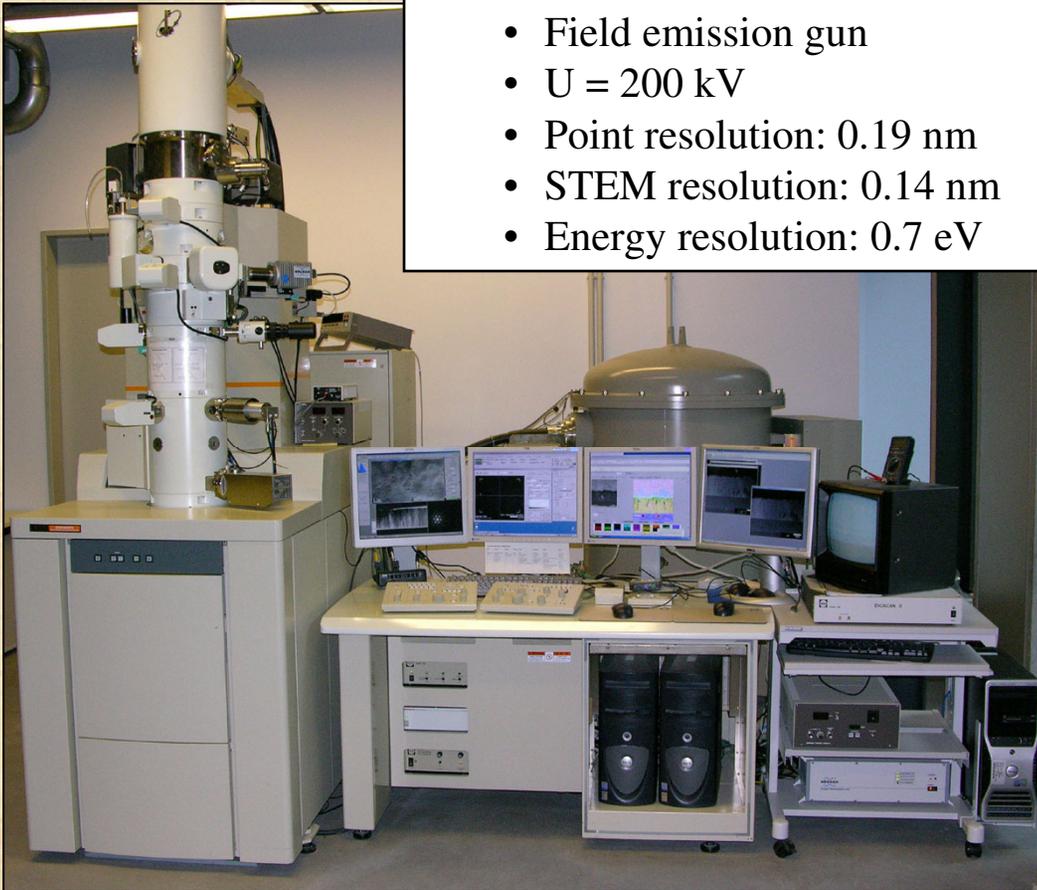
TEM/STEM JEOL 2200 FS

- Field emission gun
- $U = 200 \text{ kV}$
- Point resolution: 0.19 nm
- STEM resolution: 0.14 nm
- Energy resolution: 0.7 eV



Focused ion beam system FEI FIB Strata 201

- TEM specimen preparation
- Cross sections
- Target preparation
- Surface morphology tailoring
- Ion beam diameter: 20 nm



Joint Laboratory for Electron Microscopy Adlershof (JEMA)

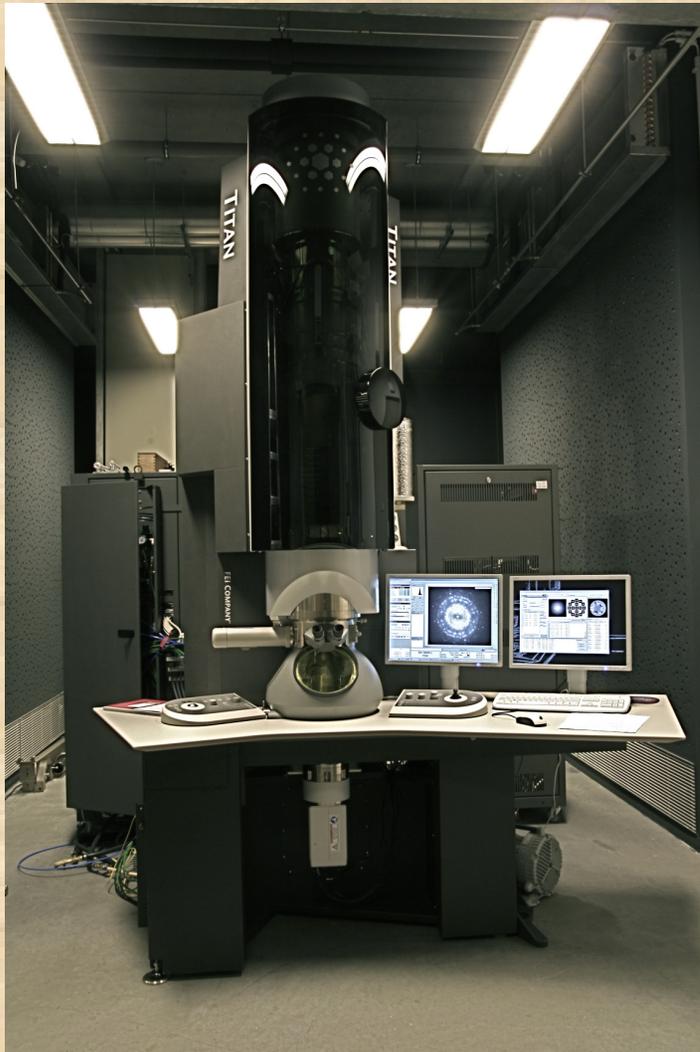
TEM/STEM HITACHI H-8110

Gatan imaging filter (GIF)
Energy dispersive X-ray detector (EDXS)
Scanning TEM BF/DF detector
Secondary electron detector

Accelerating voltage
200 kV
Point resolution 2.3 Å
Energy resolution 1 eV



Joint Laboratory for Electron Microscopy Adlershof (JEMA)



Titan 80-300 with Cs image corrector

- Field emission gun
- U up to 300 kV
- Information limit: 300 kV \rightarrow 0.1 nm
120 kV \rightarrow 1.5 nm
- STEM resolution: 300 kV \rightarrow 0.136 nm
120 kV \rightarrow 0.27 nm
- single tilt tomography holder $\pm 70^\circ$

Sponsors of the Workshop



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Facets of Electron Crystallography

Electron crystallography is the branch of science that uses electron scattering to study the structure of matter.

Facets of Electron Crystallography

PROGRAM

Topics of the day:

Day 1:

High resolution crystallite orientation and phase mapping (HRCOMP) in the TEM

Day 2:

Electron crystallography (theory and practice), automated techniques and instrumentation

Day 3:

Direct methods, charge flipping, and symmetry determination for electron crystallography