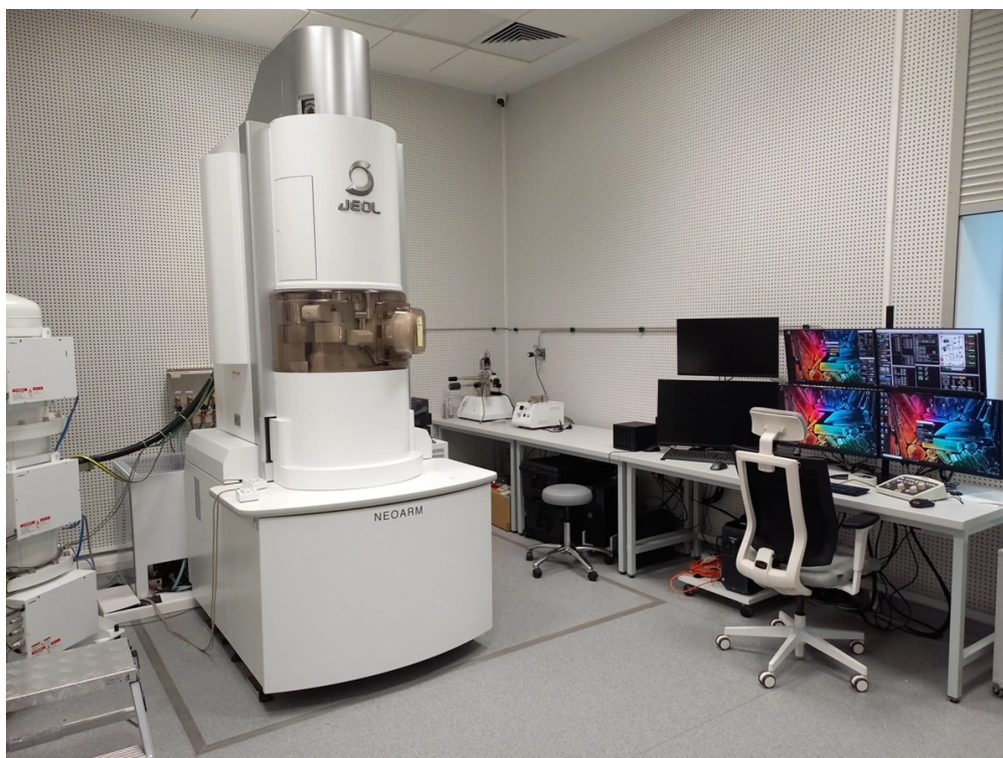


Transmission Electron Microscope



Technical description:

The transmission electron microscope is equipped with:

cold field emission gun, accelerating voltage: 60 kV and 200 kV,
spherical aberration (Cs) corrector,
high angle annular dark field detector (HAADF),
selected area all field detector (SAAF), dedicated to annular bright field (ABF), optimum bright field (OBF) and differential phase-contrast (DPC) methods
energy dispersive X-ray spectrometer (EDS) - Dual Silicon Drift Detector JEOL Centurio XXXL,
4D-STEM Gatan 4D STEMx system with the ability to acquire and analyze data in the 4D-STEM technique and perform studies such as deformation maps, crystallographic orientation maps, creation of virtual apertures and differential phase contrast,
Gatan METRO camera for direct electron detection,
double tilt liquid nitrogen cryo-transfer holder model 915 of Gatan for observations and EDS analyses at cryogenic temperatures,

Poseidon Select in-situ TEM liquid cell holder, for observations in a liquid environment/liquid state and examining chemical, electrochemical and structural processes occurring in real-time and on the nanoscale.

Trade name: JEOL JEM-ARM200F NEOARMex

More details: </equipment/transmisyjny-mikroskop-elektronowy-2/>

Access type: External

Type of accreditation / certificate: Not applicable

Contact person: Moskalewicz Tomasz

Contact person url: <https://skos.agh.edu.pl/osoba/tomasz-moskalewicz-5201.html>

Responsible body: Faculty of Metals Engineering and Industrial Computer Science

Group / laboratory / team: Interdepartmental Transmission Electron Microscopy Laboratory

Last update date: Oct. 30, 2024, 10:58 a.m.

Year of commissioning: 2024

IDUB research areas:

(PRA 7) Design, production, and testing of modern materials and the technologies of the future based on a multidisciplinary approach combining materials engineering with chemistry, physics, mathematics, and medicine

Research capabilities:

The microscope is designed to work in TEM, STEM and 4D-STEM modes. The microscope is dedicated to high-resolution chemical observations and analyses on the micro-, nano- and atomic scales, as well as in-situ environmental research in liquids and at cryogenic temperatures. The magnification range of microscopic images in TEM is from 50x to 1500000x.

Measurement capabilities:

Not applicable

Conditions for providing infrastructure:

To be agreed with the contact person.