



University of Warsaw
Biological and Chemical
Research Centre



UNIVERSITY
OF WARSAW

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If you are interested,
please contact us:

- Microscopic techniques:
HR-S/TEM
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FIB-SEM
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- Spectroscopic techniques:
ESCA, TOF-SIMS
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CNBCh UW
Laboratory of Microscopy
and Electron Spectroscopy

- over 10 000 m² of laboratory space
- 50 research teams
- excellent place for science
and business meetings

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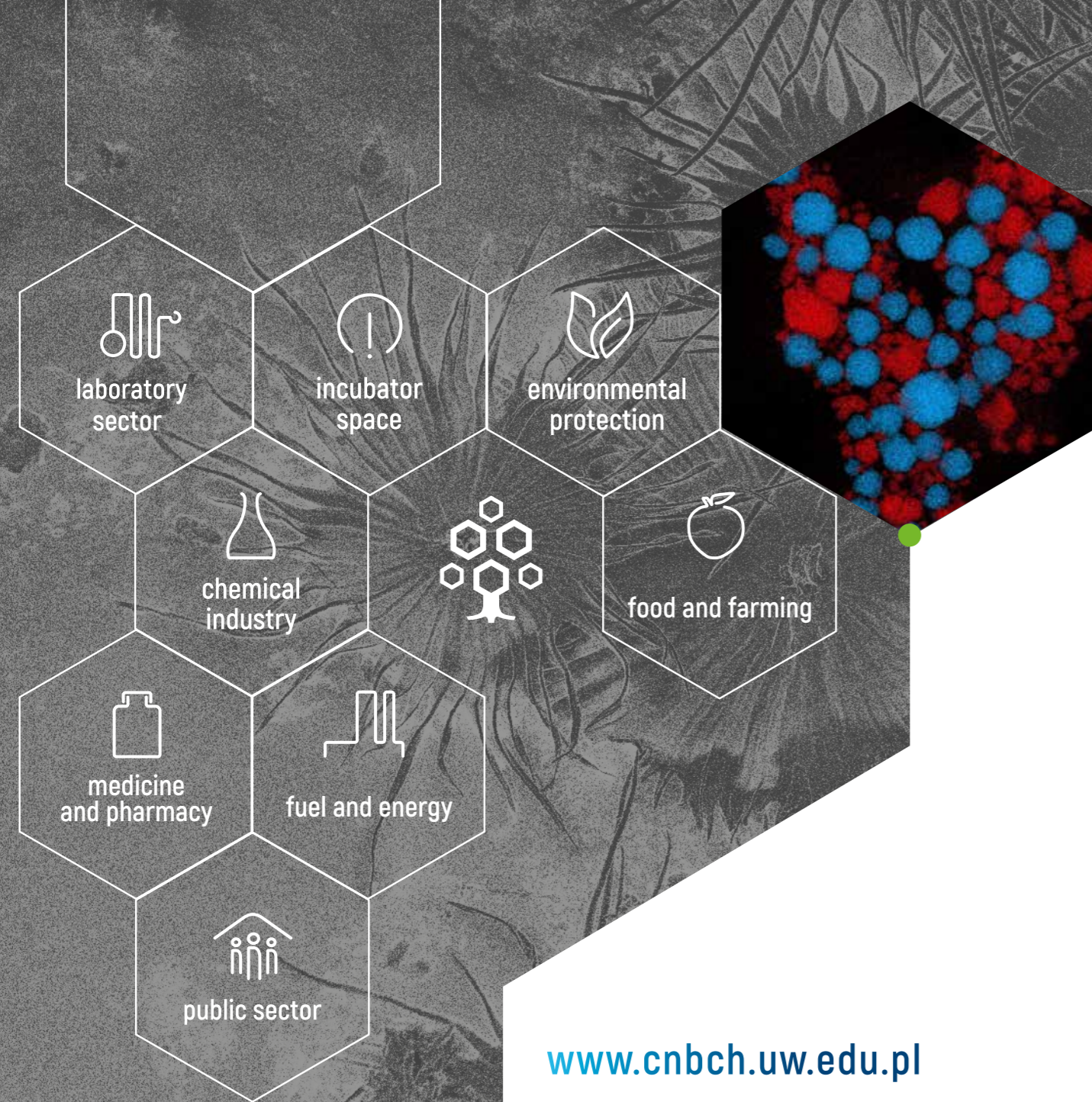
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LABORATORY
OF MICROSCOPY
AND ELECTRON
SPECTROSCOPY

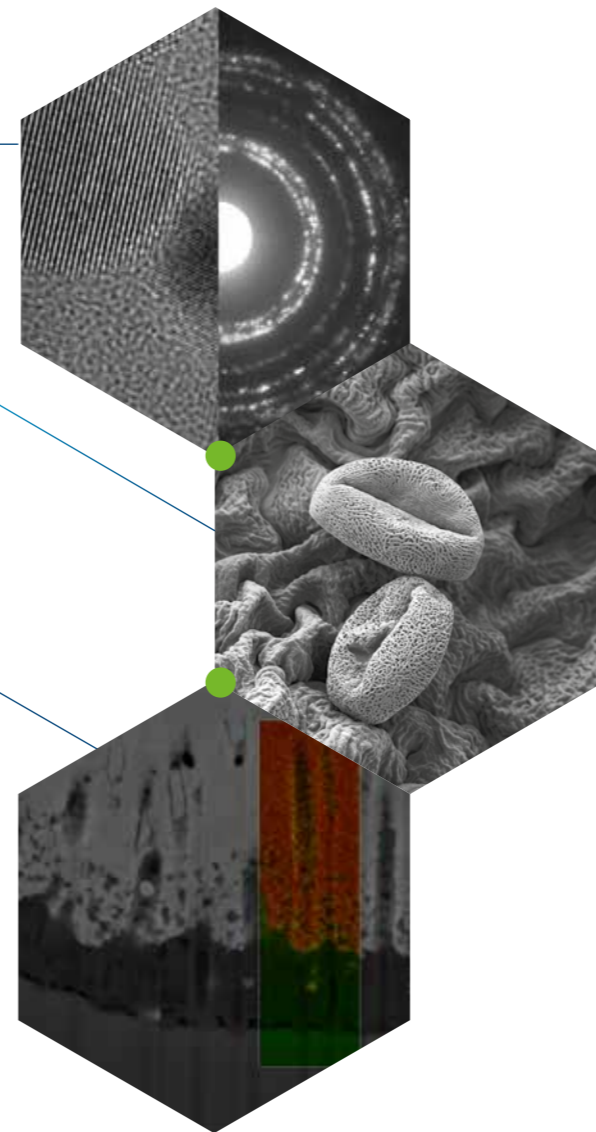




OFFER

We cooperate and provide services in the following areas:

- electron diffraction and high-resolution scanning transmission electron microscopy (HR-S/TEM)
- subatomic resolution mapping and elemental analyses based on energy dispersive X-ray spectroscopy (STEM-EDS)
- electron S/TEM tomography with subatomic resolution combined with 3D reconstruction
- scanning electron microscopy (SEM) with high-resolution low-voltage imaging
- scanning electron microscopy analysis of large fields of view with high resolution
- nanosize resolution elemental mapping and analyses based on energy dispersive X-ray spectroscopy (SEM-EDS)
- focused ion beam (FIB) and electron beam lithography, deposition of Pt, C, SiO₂ (GIS)
- micro-destructive volume (cross-section) characterization with optional EDS characterization
- TEM lamella preparation
- quantitative and qualitative surface analysis (1D, 2D, 3D) of solid samples (XPS, AES, ISS, TOF-SIMS)
- chemical state identification of elements in the sample, and local bonding of atoms information
- angle-resolved three-dimensional analysis of surface films (AR-XPS)
- electronic structure characterization of the valence bands of the surface layer (UPS)



RESEARCH EQUIPMENT

Laboratory of Microscopy and Electron Spectroscopy is equipped with four advanced scientific instruments designed for investigations of the surface and the internal structure of various biological and materials science samples:

- TALOS F200X -High-resolution Transmission Electron Microscope (200 kV) equipped with STEM Super-X EDS windowless system with four SDD designed for analytical purposes
- Crossbeam 540 - Focused Ion Beam (FIB) and Scanning Electron Microscope combined with EDS, Gas Injection System (GIS), and three remote controlled micromanipulators for electrical measurements of materials and transfer of material to supports
- AXIS Supra surface analysis instrument for photoelectron spectroscopy (XPS) ultra-violet photoelectron spectroscopy (UPS), Auger electron spectroscopy (AES) and secondary electron microscopy (SEM) characterization of solid samples
- ION-TOF5 instrument for surface analysis with time-of-flight secondary ion mass spectrometry (TOF-SIMS)

- Innovative, interdisciplinary studies in the area of bio-chemistry and materials science
- Innovative projects, carried out in a cooperation with business

4 scientific instruments designed for advanced characterization of various materials