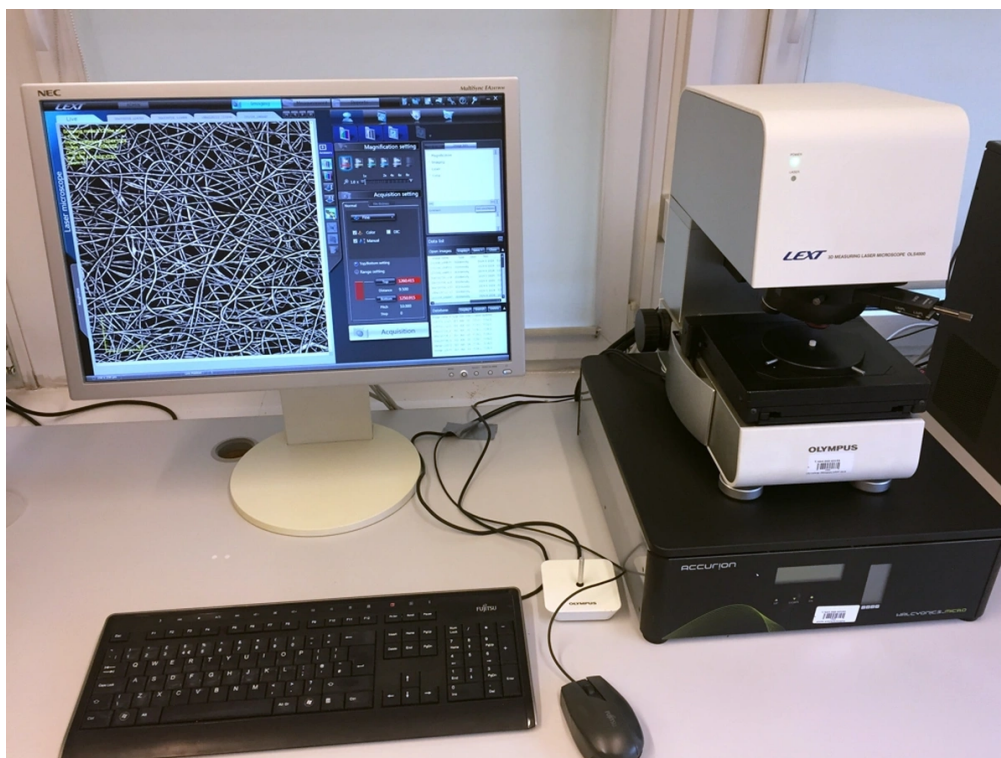


Laser Confocal Microscope



Technical description:

The Olympus LEXT OLS4000 is a confocal microscope capable of taking high-resolution 3D images and roughness measurements.

The magnification of this microscope ranges from 108x - 17,280x. The LEXT OLS4000 microscope with software is capable of performing a variety of measurements: line and surface roughness, object dimensions (height, length, surface area, volume, layer thickness), etc.

More details: <https://www.olympus-ims.com/pl/metrology/ols4000/>

Trade name: Olympus OLS 4000 LEXT - Laser Confocal Microscope

More details: </equipment/mikroskop-konfokalny/>

Access type: External

Type of accreditation / certificate: Not applicable

Contact person: Gajek Marcin

Contact person url: <https://skos.agh.edu.pl/osoba/marcin-gajek-6833.html>

Responsible body: Department of Ceramics and Refractories

Group / laboratory / team: Departmental Laboratory of Traditional and Technical Ceramics, dr hab. inż. Marcin Gajek, dr hab. inż. Janusz Partyka

Last update date: May 24, 2023, 2 p.m.

Year of commissioning: 2012

IDUB research areas:

(PRA 5) Materials, technologies, and processes inspired by nature: biotechnology, bioinspirations in engineering and materials science, biosensors, bioenergetics, biocatalysis, biocomputers, and biocomputation

(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:

3D and 2D; Modes: real-color, high-resolution and height data

Differential interference Contrast (DIC)

Profile Parameters: Primary Profile: Pp, Pv, Pz, Pc, Pt, Pa, Pq, Psk, Pku, Psm

Roughness Profile: Rp, Rv, Rz, Rc, Rt, Ra, Rq, Rsk, Rku, Rsm

Waviness Profile: Wp, Wv, Wz, Wc, Wt, Wa, Wq, Wsk, Wku, Wsm

Amplitude Parameters: Sq, Ssk, Sku, Sp, Sv, Sz, Sa

Functional Parameters: Smr(c), Sdc(mr), Sk, Spk, Svk, SMr1, SMr2 and others

Measurement capabilities:

5X, 10X, 20X, 50X, 100X objective lens

Magnification range 108 - 17 280X

Light Source: 405 nm Semiconductor Laser

Color Observation Section: White LED, 2-megapixel Single-panel CCD

A set of filters to correct noise, surface tilt, surface curvature or roughness.

Maximum sample diameter 15 cm

Maximum sample thickness 10 cm

Maximum sample weight 1 kg

Conditions for providing infrastructure:

Work only through an employee operator