



UNIVERSITY OF SILESIA
IN KATOWICE

Institute of Chemistry

Faculty of Science and Technology



Currently in three locations:





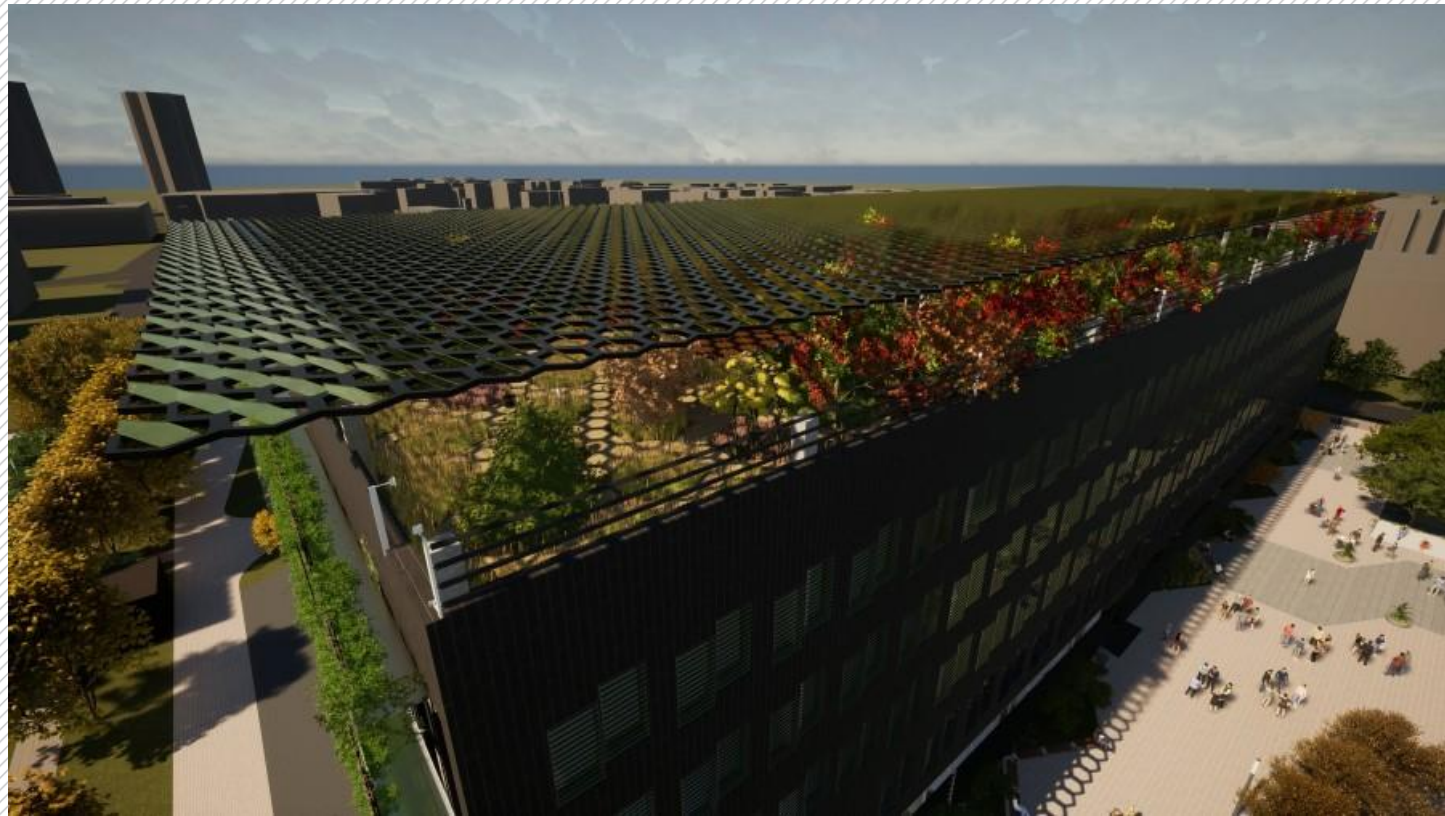
UNIVERSITY OF SILESIA
IN KATOWICE

In a few years – new building!





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Institute of Chemistry – research groups

- The Team of Thermodynamics in Action
- Modeling of Complex Instrumental Signals
- Bioorganics
- Drug Design and and Nanofamacology Team
- The Team of Physical Chemistry
- Research Group on Electron Correlation
- Electrosynthesis Group
- Forensic Chemistry Group
- The Team for Spectroscopy and Luminescent Materials
- Computational Chemistry Methods Application Team
- The Team of Polymers and Functional Materials
- The Team of Analytical Chemistry
- Group of Physicochemistry of Transition Metals Compounds
- Electron correlation research group



Academic Staff

- Full professors: **11**
- Associate professors: **22**
- Assistant professors: **30**

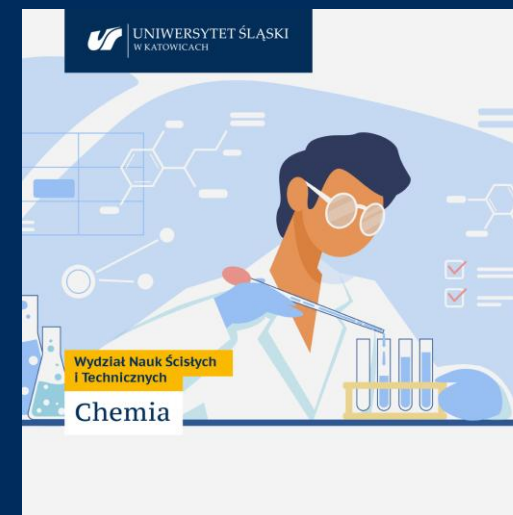
- Technical staff: **15**
- Administrative staff: **2**

- 14 research teams
- 9. individual researchers

We educate in the fields of:

- chemistry (bachelor, master)
- chemical technology (engineer)

PhD students: 18



Main research topics:

Drug design and synthesis

New molecular materials and nanomaterials

Materials for photonic and optophotonic applications

Graphene based nanomaterials and nanocomposites

High pressure studies of ionic liquids, fuels and biofuels

Theoretical chemistry

Testing the composition of suspended dust in the air (2.5 μm fraction), analyses in accordance with the EPA protocol



Our research equipment

- **X-ray lab:** X-ray diffractometer Gemini A Ultra, Oxford Diffraction (temp: 90 to 490K)
- **Spectroscopy lab:** two spectrofluorimeters: FLS-980 and Hitachi F-7000, spectrophotometer UV-VIS-NIR Nicolet is50, spectrometer FT-IR Nicolet iS5;
- **Ultrafast laser spectroscopy lab:** femtosecond spectrofluorimeter for transient absorption and light impulse in the UV-VIS-NIR range in the pump-probe system;
- **High pressure lab:** the unique designed and constructed speed of sound meter for measurements at high pressures up to 1000 atm., transitiometer, and high pressure vibrating tube densimeter.
- **IR and Raman lab:** FT-IR and Raman spectrometers plus the laser set including spectrofluorimeter coupled to the tunable optical parametric oscillator, with monochromators and detector in the UV/VIS/NIR range;
- **Organic chemistry lab:** Bruker Ascend 500 NMR spectrometer, EPR, IR, UV/VIS, DSC and TGA analysers, GC/MS spectrometers and HPLC/MS.



Our research equipment

- **HPTLC lab:** The HPTLC laboratory is equipped with top-class measuring devices, apparatus and various accessories from CAMAG, which allows to optimize the composition of the mobile phase, carry out the separation process of components of complex samples, as well as their qualitative and quantitative determination reliably and reproducibly.
- **PM 2.5 composition testing lab:** the laboratory is equipped with devices enabling the characterization of suspended dust based on chromatographic analysis of the composition of cations and anions, metal analysis - XRF and thermal-optical analysis of the composition of carbon fractions

