## **TOPICS OF SUMMER SCHOOL FOR NANOMATERIALS 2025**

DATE , VENUE	TITLE	SHORT DESCRIPTION
2. 9. 2025, Liberec, Technical University of Liberec	Revealing Nanomaterial Secrets with Solid-State NMR	Preparation of samples for NMR measurements, giving hands-on experience for the methods
2. 9. 2025, Liberec, Technical University of Liberec	Tiny Traces, Big Insights: HPLC/MS	and processes needed for each type of NMR measurements. Quantification of a tablet's active ingredient and the non-target analysis will be demonstrated by attempting to identify degradation products of the active ingredient.
<b>4. 9. 2025</b> , Olomouc, Palacký University	The Boundaries of the Nanoscale World through the Optics of Electron Microscopy	Preparation of samples at the nanoscale for three microscopic methods: TEM, SEM, and AFM, with participation in their measurement followed by result comparison and evaluation of the benefits and limits of individual measurements.
4. 9. 2025, Olomouc, Palacký University	Supercapacitors: The Future of Energy Storage Applications	Preparation of supercapacitor cells and their testing using modern battery testing equipment, including both small and large potentiostats.
8. 9. 2025, Ústí nam Labem, J. E. Purkyně University - Faculty of Environment	Identification of PAHs in Soils by GC-MS	Preparation of samples from contaminated soils for both qualitative and quantitative analysis of polycyclic aromatic hydrocarbons .
8. 9. 2025, Ústí nam Labem, J. E. Purkyně University - Faculty of Environment	Measurement of Heavy Metal Content in Contaminated Soils Using ICP-MS	Preparation of samples from contaminated soils for the qualitative and quantitative analysis of heavy metals.
8. 9. 2025, Ústí nam Labem, J. E. Purkyně University - Faculty of Science	Polymer Nanofiber Membrane Prepared by Electrospinning Technology	Preparation of nanofiber materials using electrospinning technology from polymer solutions and their subsequent treatment and use.
9. 9. 2025, Řež, Institute of Inorganic Chemistry, CAS	Monitoring of Degradation of Environmental Pollutants	Preparation of samples for TEM and SEM characterization and study of kinetic of environmental pollutants' degradation by HPLC/DAD.
9. 9. 2025, Řež, Institute of Inorganic Chemistry, CAS	Complex Analyses for Monitoring of Structural Changes	Preparation of nanomaterial samples and their characterization using FTIR and X-ray powder diffraction before and after thermal analysis.
10. 9. 2025, Prague 8, J. Heyrovský Institute of Physical Chemistry, CAS	Photocatalytic Water Purification	Realization of demonstration experiment showing the efficiency of heterogenous photocatalysis in the degradation of an important aqueous pollutant, including all procedures from catalyst preparation and sampling to the treatment of kinetic data.
10. 9. 2025, Prague 8, J. Heyrovský Institute of Physical Chemistry, CAS	Preparation and Characterization of Low-Dimensional Materials in the Cleanroom Environment	Lithographic preparation of electrode systems followed by surface modification using RF plasma and basic AC/DC characterization of low-dimensional materials.
<b>11. 9. 2025</b> , Prague 4, Institute of Experimental Medicine, CAS	Best Practices for Working Safely with Nanomaterials in Research Laboratories	Theoretical introduction as well as practical demonstration of nanosafety.
11. 9. 2025, Prague 4, Institute of Experimental Medicine, CAS	In vitro Toxicity Testing of Nanomaterials	Practical demonstration of sample toxicity tests in the laboratory.