

1	CEIPEX RESEARCH TOPIC: Functional properties of surfaces and nanostructures suitable for nanophotonics, nanoelectronics and/or quantum technologies
2	RESEARCH GROUP: Fabrication & Characterization of Nanostructures (Tomáš Šikola)
3	TOPICS/FOCUS: Exploitation of novel functional properties of surfaces/nanostructures in nanophotonics, nanoelectronics and/or quantum technologies
4	SUMMARY: The activities of the group are aimed at the research on nanoscience and nanotechnology issues related to surfaces and planar structures like nanomaterials, nanoobjects and nanodevices capable of exploitation in nanoelectronics, nanophotonics, quantum technologies and similar areas. It covers both metallic, semiconductor and dielectric 2D – 0D nanostructures (layered structures, nanowires, nanodots and nanodisks), 2D materials (e.g- graphene TMDs, M-Xenes), and their functional systems. The group applies <i>broader and more complex approach involving fabrication, characterization and analysis of these items, and investigation and understanding of their functional properties prospective for applications</i> (e.g. in plasmonics, spintronics, quantum nanophotonics, etc.). A significant part of these activities has been traditionally devoted to <i>R&D of special instruments, advanced techniques and methodologies</i> for fabrication, characterization, analysis and operando monitoring of nanostructures and micro-nanoobjects. The CEIPEX project research topic should be aimed at a research and application of novel functional properties of surfaces, nanostructures and/or nanodevices bringing qualitatively new ideas and principles into this research area and possessing the potential to add on a new research direction of the group.
5	RG WEBPAGE/CONTACT: Fabrication and Characterisation of Nanostructures CEITEC - výzkumné centrum