Inventory of experimental and theoretical resources available for NanoSpace COST Action	
Country:	Finland
Name of Institution/Laboratory:	University of Eastern Finland/Center for Photonics Research
Contact information (name, e-mail):	Polina Kuzhir, polina.kuzhir@uef.fi
Website:	https://sites.uef.fi/photonics/
Short description **(max 0.5 page)** of available techniques (experiment or theory): If appropriate, please include 1 picture/figure and caption highlighting resources.	The Center for Photonics Research has a 283 m2 of cleanrooms with an electron-beam lithography system, complemented by a wide variety of nanofabrication and characterization capabilities including different tools for metal deposition, reactive ion etching, scanning electron microscopy, etc. The analytical equipment outside the clean room includes optical pump-probe setup based on a femtosecond laser, time-domain spectroscope, nanosecond tuneable laser with a wavelength ranges from 800 to 4000 nm.
Sample/target description (e.g. gas, clusters, solid,…):	Graphitic films of dielectric and semiconductor substrates (pyrolytic carbon, graphene, graphene multilayers, pyrolyzed resists, graphitised pyrolyzed resists); diamond single crystals (nano and micro needles with color centers (nitrogen – vacancy, silicon-vacancy, germanium-vacancy, etc).
How to access to experimental/computational resources (e.g. through collaboration, user facility proposal calls,….):	Resources can be accessed through collaboration.
References **(max 5)**:	1. D. Bandurin, D. Svintsov, I. Gayduchenko, Sh. Xu, A. Principi, M. Moskotin, I. Tretyakov, D. Yagodkin, S. Zhukov, T. Taniguchi, K. Watanabe, I. Grigorieva, M. Polini, G. Goltsman, A. Geim, and G. Fedorov, Resonant Terahertz Detection Using Graphene Plasmons, Nature Communications, 9, 5392 (2018) 2. Lena Golubewa, Yaraslau Padrez, Sergei Malykhin, Tatsiana Kulahava, Ekaterina Shamova, Igor Timoshchenko, Marius Franckevicius, Algirdas Selskis, Renata Karpicz, Alexander Obraztsov, Yuri Svirko, and Polina Kuzhir, All-optical thermometry with NV and SiV color centers in biocompatible diamond

	microneedles, Adv.OpticalMater. 2022, 10, 2200631. 3. I. Gayduchenko, S. Xu, G. Alymov, M. Moskotin, I. Tretyakov, T. Taniguchi, K. Watanabe, G.Goltsman, A. K. Geim, G. Fedorov, D. Svintsov, D. A Bandurin. Tunnel field-effect transistors for sensitive terahertz detection. Nature Communications 12, 543 (2021). 4. A. Novitsky, A. Paddubskaya, I. Appiah Otoo, M. Pekkarinen, Y. Svirko, and P. Kuzhir, Random graphene metasurfaces: Diffraction theory and giant broadband absorptivity, Phys. Rev. Applied 17, 044041 (2022) 5. M. Baah, A. Paddubskaya, A. Novitsky, N. Valynets, M. Kumar, T. Itkonen, M. Pekkarinen, E. Soboleva, E. Lahderanta, M. Kafesaki, Y. Svirko, P. Kuzhir, All-Graphene Perfect Broadband THz absorber, Carbon . 185, 709-716 (2021)