

International Conference on “Mathematics for the Micro and Nanoworld: From Soliton Dynamics, Nonlinear Optics to Quantum Technologies”

On 18-22 September, 2023, an international Conference on “Mathematics for the Micro and Nanoworld: From Soliton Dynamics, Nonlinear Optics to Quantum Technologies” is held in Samarkand city. The goal of this conference is to present and discuss a wide range of less studied and recently emerged problems in mathematical physics, focusing on evolution equations in low dimensional domains with applications in optics, optoelectronics, and quantum technologies. Special attention will be paid to applications of these topics in condensed matter physics, nonlinear and quantum optics, optoelectronics, quantum functional materials, and other areas of modern quantum science and technology.

The recent progress made in various advanced areas of physics and its practical applications in quantum technologies has led to several challenging problems in the mathematical physics of partial differential equations and spectral theory of differential operators with applications in physics. A wide range of challenging mathematical problems arising in condensed matter physics, quantum materials, nonlinear optics, matter-wave physics and PT-symmetric physics will be discussed by invited speakers and plenary talks. The papers presented at the conference will concern problems and perspectives in the control of optical and quantum processes, optimization of properties of optical and quantum functional materials, miniaturization of optical and optoelectronic devices, in the context of modeling physical processes using evolutionary

equations in low dimensional domains.

The conference is attended by leading scientists from Germany, Czech Republic, Italy, France, Kazakhstan and other countries.

The conference is jointly organized by Turin Polytechnic University in Tashkent, Samarkand State University and the Physical Society of Uzbekistan.