

## International Workshop on the Interplay of Mechanics, Tribology and Materials Science

Samarkand, 4.-6. September 2023

### Second Announcement

**Organizer:** Prof. Dr. Valentin L. Popov and Prof. Khayrulla Khudoynazarov

**Venue:** Samarkand State University

#### Objectives

The Workshop is devoted to interdisciplinary research of mechanical and biological systems considering the interrelation and interplay of their mechanical, tribological and material aspects. In the last years, tribology has expanded to qualitatively new fields of applications, which are at the forefront of global development trends of technology and society, in particular micro- and nanotechnology as well as biology and medicine. The main Challenge of tribology remains its interdisciplinary character which will be in focus of the present Workshop. The goal of the workshop is to review the recently established concepts, tools and research activities and to outline the most important tasks for the future.

#### Topics

- Contact mechanics
- Influence of dynamics on friction
- Active control of friction by vibrations and external fields
- Frictional Instabilities
- Structural mechanics and tribology
- Materials for tribological applications
- Active bio contact mechanics
- Applications of FFT-based Boundary Element Method (BEM)
- Simulation and design of materials
- Understanding of the third body
- New approaches in simulation of wear
- Recent advances in simulation and understanding of the rubber friction
- Elastohydrodynamic lubrication
- Fretting, fatigue, structural damping
- Application of tribology in process engineering
- Generalized frictional laws: Friction beyond Amonton's law, internal variables
- Historical aspects of contact mechanics and friction

**Conference fee:** 150,00 €

**Call for papers:** Please submit an abstract in English not later than July 15, 2023 (by e-mail: [j.starcevic@tu-berlin.de](mailto:j.starcevic@tu-berlin.de))

**Publication:** Selected papers presented at the Workshop will be published in the International Journal *Facta Universitatis. Series Mechanical Engineering*: <http://casopisi.junis.ni.ac.rs/index.php/FUMechEng> (indexed in Scopus & WOS, Impact Factor 4.662, ranking 26/137 in Mechanical Engineering, Q1). All submitted papers undergo usual peer reviewing process. The papers will be published *online first* immediately after acceptance. They will be printed as a Special Issue in September 2024.

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