



# Pozvánka na seminár

## Ústavu experimentálnej fyziky

### SAV, v. v. i.



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Budova PROMATECH m. č. 108, Watsonova 47A, Košice

## „Potential industrial applications of magnetic fluid as nanolubes“

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### Anotácia:

Magnetic fluids are mixtures of solid magnetic particles of the size of a nanometer covered by a surfactant appropriate for the prevention of aggregation and non-magnetic liquids. The dispersion of these particles in a fluid depends on the compatibility of the surfactant with the carrier medium. But the magnetic fluid behaves like an entity; the nanomagnetic particles in the fluid exist as distinct components. Thus, the fluid can be considered as a two-stage, three-component system in a wider sense. Thus, when such liquids flow, the relative motion between the two phases and their interactions results in separate properties, that can be derived from their tribological behaviour. Magnetic fluid has an additional advantage over other nanofluids. Namely, an external magnetic field can maintain it in a specific location. Consequently, these properties offer superior lubrication properties, forming as nano-lubricants. In this presentation, we will discuss the magnetic fluid's tribological properties when used as a lubricant. The potential for applying magnetic fluid as nano-lubricants at the commercial level is still open.



V Košiciach dňa 29. 5. 2023

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vedecký tajomník ÚEF SAV, v. v. i.