

**Vysoké učení technické v Brně, Fakulta stavební
Ústav matematiky a deskriptivní geometrie**

Vás zve na přednášku

**On the symmetry in sharp oscillation criteria
for second-order functional differential equations**

Přednášku přednese dr. Irena Jadlovská



Mathematical Institute,
Slovak Academy of Science, extension in Košice,
Košice, Slovak Republic

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Abstract. We study the oscillation of second-order half-linear functional differential equations under two fundamental dichotomies: the nature of deviating argument (delay vs. advance) and Trench's canonical classification (canonical vs. non-canonical form). For each of the four resulting cases, sharp extensions of the classical Hille–Kneser oscillation criterion are obtained via an iterative monotonicity method. These criteria exhibit a notable symmetry: the canonical delay case pairs with the non-canonical advance case and vice versa for the canonical advance and non-canonical delay cases. We conclude by discussing possible extensions of the results to higher-order functional differential equations.

Ing. Jan Holešovský, Ph.D.
vedoucí ústavu