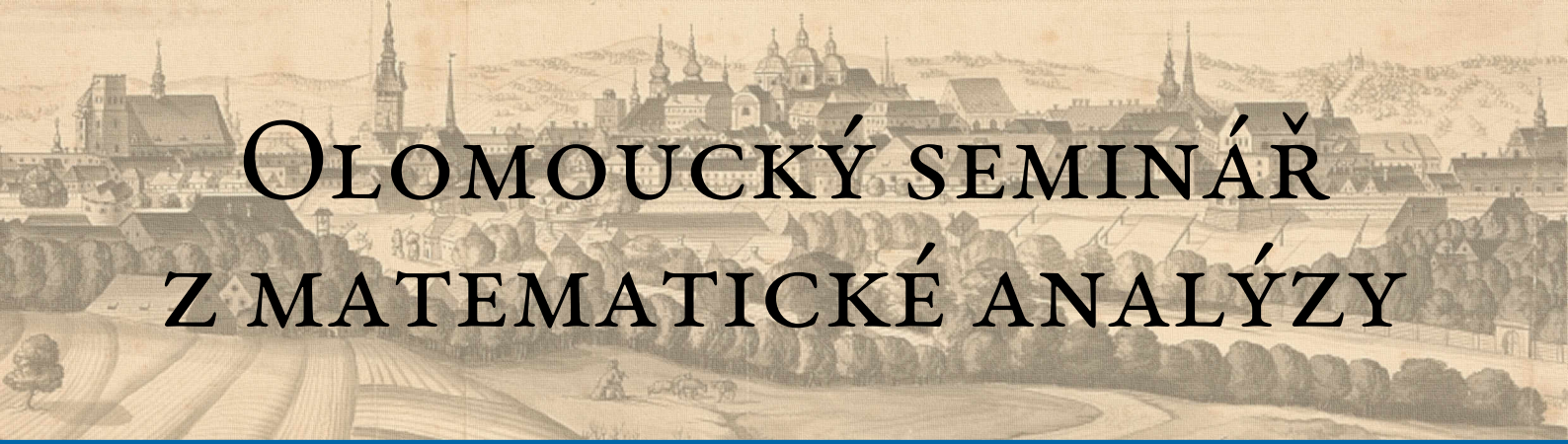




OLOMOUCKÝ SEMINÁŘ Z MATEMATICKÉ ANALÝZY

V úterý 14. října 2025 od 13.30 v učebně 5.068, PřF UPOL, 17. listopadu 12

prof. Zhivorad Tomovski, Ph.D.

z Přírodovědecké fakulty Univerzity Palackého v Olomouci

pronese přednášku na téma

Fractional Laguerre derivatives and associated differential equations

Abstract: Fractional versions of the Laguerre derivative were introduced in 2021 by Yakubovich, who defined both fractional integrals and derivatives (of Riemann–Liouville type) within the Laguerre setting. We continue with the mathematical study of these operators: proving many equivalent formulae for them, introducing the corresponding Caputo-type Laguerre fractional derivatives, and finding eigenfunctions for the new operators. Applications of our work are given by solving several fractional differential equations, specially fractional nonlinear PDE involving Laguerre-type operators, their solutions often being expressible in terms of special functions such as the Tricomi and Mittag-Leffler type function.

