

Welcome to KFUPM

Dr. Anatoly Alikhanov

Associate Professor

Department of Mathematics

Affiliated with Interdisciplinary Research Center for Intelligent Manufacturing & Robotics



Education:

PhD in computational mathematics,
Lomonosov Moscow State University,
Russia, 2009

Previous Institution:

North-Caucasus Federal
University, Stavropol, Russia
Full Professor, 2020 – 2025

Research Profile (SCOPUS):

Total Citations: **1,953**

Total Journal Publications: **45**

H-index: **16**

Professional Interests:

Computational Mathematics, Numerical Analysis,
Fractional Differential Equations, Finite Difference
Schemes, Non-local Boundary Value Problems,
Mathematical Modeling

About Dr. Alikhanov:

Dr. Alikhanov is a leading researcher in the field of computational mathematics, specifically known for his contributions to the numerical solution of fractional differential equations. He has developed foundational high-order difference schemes (such as the $L2-1\sigma$ and $L2$ formulas) for approximating fractional derivatives. These works are widely cited and have placed him in the World's Top 2% Scientists list by Stanford University consistently from 2019 to 2024. His methods are used to solve time-fractional diffusion and wave equations, addressing stability and convergence in difference schemes for complex boundary value problems, including those with non-local conditions.