"Analysis and Applied Mathematics"
Weekly Online Seminar

Seminar leaders:
Prof. Allaberen Ashyralyev (BAU, Istanbul),
Prof. Michael Ruzhansky (UGent, Ghent),
Prof. Makhmud Sadybekov (IMMM, Almaty)

Date: **Tuesday, February 11, 2025**
Time: 14.00-15.00 (Istanbul) = 12.00-13.00 (Ghent) = 16.00-17.00 (Almaty)

Zoom link: https://us02web.zoom.us/j/6678270445?pwd=SFNmQUIvT0tRaHlDa-VYrN3l5bzJVQT09, **Conference ID:** 667 827 0445, **Access code:** 1

Speaker:
Ph.D. Bazargeldy Khudaikuliev
Turkmen State Institute of Finance, Ashgabat, Turkmenistan

Title: **Nonnegative solutions of a second-order elliptic equation with a singular potential in a domain with a conic point**

Abstract: In this paper, we study the behavior of nonnegative solutions of the Dirichlet problem for a linear elliptic equation with a singular potential in a domain $\Omega = G \cap B_\rho \subset R^n$ ($n \geq 3$), where G is a domain with a conic point, and $B_\rho = B(0, \rho)$ is a ball of radius ρ, $\rho \leq 1$, centered at the origin of coordinates. We find an exact condition on the potential ensuring the existence or absence of a nonnegative solution of that problem.

Biography:
Bazargeldy Khudaikuliyev has a degree of Candidate of Physical and Mathematical Sciences (Ph.D.) and works at the Department of Mathematics of the Turkmen State Institute of Finance. His research is devoted to the existence and uniqueness of nonnegative solutions of second-order elliptic and parabolic equations in the neighborhood of a singular point for a potential and the qualitative properties of boundary value problems of elliptic and initial-boundary value problems of parabolic equations.