Bahçeşehir University, Istanbul, Türkiye
Analysis & PDE Center, Ghent University, Ghent, Belgium
Institute Mathematics & Math. Modeling, Almaty, Kazakhstan

"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, April 2, 2024**
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=SFNmQUlvT0tRaH-lDaVYrN3l5bzJVQT09, **Conference ID:** 667 827 0445, **Access code:** 1

Speaker:

Prof. Dr. Yaşar Sözen
Hacettepe University, Ankara, Türkiye

Title: **A note on positivity of differential operator with Samarskii-Ionkin type condition**

Abstract: We consider a second order differential operator A^x with Samarkii-Ionkin type conditions. We establish the positivity of the differential operator A^x in $C[0,1]$. Moreover, we investigate the structure of fractional spaces $E_\alpha(C[0,1], A^x)$. Furthermore, we prove for each $0 < \alpha < 1/2$ that the topological equivalence of the normed spaces $E_\alpha(C[0,1], A^x)$ and $^\circ C^{2\alpha}[0,1]$ and hence we establish the positivity of A^x in $^\circ C^{2\alpha}[0,1]$. We also apply the theoretical results to obtain noval coercive inequalities for the solution of a nonlocal boundary value problem for parabolic equation. This is a joint work with Prof. Dr. Allaberen Ashyralyev, Bahçeşehir University.

Biography:

Yaşar Sözen graduated from Middle East Technical University. He received his PhD degree in Mathematics from University of Southern California in 2000. Since 2014, he is a professor at Hacettepe University. His research interests lie in the fields of Topology, Geometry and Analysis.