

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 30, 2024**

Time: 14.00-15.00 (Istanbul) = 13.00-14.00 (Ghent) = 16.00-17.00 (Almaty)

Zoom link: <https://us02web.zoom.us/j/6678270445?pwd=SFNmQUlVt0tRaH-IDaVYrN3I5bzJVQT09>, **Conference ID:** 667 827 0445, **Access code:** 1

Speaker:

Prof. Dr. Bilal T. Bilalov

Yildiz Technical University, Istanbul, Türkiye

Title: Interior Schauder type estimates for m -th order elliptic equations in weighted Banach spaces

Abstract: We consider m -th order linear, uniformly elliptic equations $Lu = f$ with non-smooth coefficients in Banach-Sobolev spaces $W_{X_w}^m(\Omega)$ generated by weighted Banach Function Spaces $X_w(\Omega)$ on a bounded domain $\Omega \subset R^n$. Supposing boundedness of the Hardy-Littlewood Maximal operator and the Calderon-Zygmund singular integrals in $X_w(\Omega)$ we obtain solvability in the small in $W_{X_w}^m(\Omega)$ and establish interior Schauder type a priori estimates. These results will be used in order to obtain Fredholmness of the operator L in $X_w(\Omega)$.

Biography:

Bilal T. Bilalov graduated from Moscow State University named after M. V. Lomonosov in 1986 with the specialization in Applied Mathematics and Cybernetics. He received the degree of the Candidate of Sciences (PhD) in Physics and Mathematics from Moscow State University in 1989. In 1996, he was awarded the degree of the Doctor of Sciences in Physics and Mathematics by the Moscow State University (Differential Equations and Mathematical Physics). Since 2002 to date, he is a head of the department of "Non-harmonic analysis" at the Institute of Mathematics and Mechanics of NAS of Azerbaijan. In 2009, he held the position of Full Professor and from 2014 he is a Corresponding Member of the NAS of Azerbaijan. From 2022 to date he is a Full Professor at Yildiz Technical University. Prof. Dr. B.T. Bilalov has research interests in the following areas: Differential Equations, Approximation Theory, Theory of Bases, Theory of Frames, Spectral Theory of Operators, Fuzzy Theory.