

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, March 19, 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-IDaVYrN3I5bzJVQT09>, **Conference ID:** 667 827 0445, **Access code:** 1

### Speaker:

**Prof. Dr. Metin Başarır**

*Sakarya University, Türkiye*

Title: **On the solutions of some second-order  $(p,q)$ -difference equation**

Abstract: In this talk, we give a brief literature overview and then introduce the second-order difference equation, called Euler-Cauchy-like  $(p,q)$ -difference equation, and also give the oscillation of the solutions of this equation and the  $(p,q)$ -Sturm-type separation theorem and  $(p,q)$ -Kneser's theorem about oscillation of the solutions in  $(p,q)$ -calculus. Moreover, we examine the existence and uniqueness of the solutions of this difference equation with non-local boundary conditions using the Banach fixed point theorem.

### Biography:

**Metin Başarır** was born in Bolu/Türkiye. He received his PhD degree from Ankara University in 1988. He worked at Fırat University in 1983-1985 and 1988-1995 and at Ankara University in 1985-1988. Since 1995, he has been working at Sakarya University. His research interests lie in the fields of Mathematical Analysis, such as Fixed Point Theory, Sequence spaces and matrix transformations, the geometry of Banach spaces, measure of noncompactness, normed sequence spaces, etc.