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, December 24, 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=SFNmQUIvT0tRaHlDa-VYrN3l5bzJVQT09, **Conference ID:** 667 827 0445, **Access code:** 1

Speaker:

Dr. Yagub N. Aliyev
ADA University, Baku, Azerbaijan

Title: **The extremal values of the ratio of differences of power mean, arithmetic mean, and geometric mean**

Abstract: In the talk the maximum and the minimum of the ratio of the difference of the arithmetic mean and the geometric mean, and the difference of the power mean and the geometric mean of n variables, is discussed. A new optimization argument was used which reduces n variable optimization problem to a single variable. All possible cases of the choice of the power mean and the choice of the number of variables of the means is studied. The obtained results generalize and complete the earlier results which were either for specific intervals of power means or for small number of variables of the means. Some of the results are formulated as the best constant inequalities involving interpolation of the arithmetic mean and the geometric mean.

Biography:

Yagub Aliyev is Assistant Professor at ADA University (Azerbaijan). His research interests include Sturm-Liouville theory, 3x+1 Problem, History of Mathematics, Number theory, Euclidean Geometry, Inequalities.