Bahçeşehir University, Istanbul, Turkey
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 4, 2023**
Time: 12.00-13.00 (Istanbul) = 11.00-12.00 (Ghent) = 15.00-16.00 (Almaty)

Zoom link: https://us02web.zoom.us/j/6678270445?pwd=SFNmQUIvT0tRaH-lDaVYrN3l5bzJVQT09, **Conference ID:** 667 827 0445, **Access code:** 1

Speaker:

Prof. Dr. Malay Banerjee
Indian Institute of Technology, India

Title: **Immuno-epidemiological models of COVID-19: An overview**

Abstract: A wide range of mathematical models is available to study the epidemic progression of SARS-CoV-2. Variation in the period of infectivity, the time required for recovery, and days spent at the hospital during the disease severity vary significantly from one patient to another. The main objective of this talk is to discuss a new modeling approach for the COVID-19 epidemic, which involves distributed recovery and death rates and the variable infectivity based upon the immunity level of the individuals. The infection transmissibility rate depends upon the immune response's strength and antibody level due to vaccination and acquired immunity. The proposed model helps to evaluate the COVID-19 epidemic situation in some countries.

Biography:

Malay Banerjee, is currently a full Professor at the Department of Mathematics & Statistics at IIT Kanpur, India where he joined in 2008. His current research interests are focussed on the detailed nonlinear dynamical analysis of mathematical models related to ecology and epidemiology with special emphasize on local and global bifurcation, spatio-temporal pattern formation, dynamics with slow-fast time scales and various mechanisms of epidemic progressions. Currently he is Associate Editor for the journals Applied Mathematics & Computation, International Journal of Bifurcation & Chaos, Mathematical Modelling of Natural Phenomena, and Subject Editor for Applied Mathematical Modelling.