Analysis and Control of Evolutionary Partial Differential Equations
Special Session B11

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This Special Session will feature speakers who have wide-ranging research expertise in the mathematical analysis of dynamical systems, which encompasses a very broad area of research. In this regard, our special session will focus on the topics that fall under the heading of qualitative properties of evolutionary PDEs and their applications to linear/nonlinear equations of parabolic and/or hyperbolic type, particularly those equations coming from physics and mechanics. These PDE systems also arise in (i) fluid dynamics for which the Navier-Stokes (NS) and Euler equations are often invoked as modeling equations, (ii) viscoelasticity, population dynamics, or heat flow in real conductors which have time delays or memory effects, i.e., the dynamics depend on previous states, or they are influenced by the past history of the variables. Then, delay differential equations and equations with memory, where the past history is in play through a convolution integral, will be a topic of interest. In particular, our session will address the wellposedness, long-time behavior (in the sense of global attractors and stability), control, optimization, and regularity properties of the above-mentioned dynamical systems.

This special session is scheduled on July 25-26, 2024.

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