NUMTA 2026 Special Session on

Optimization and Control for Evolving Socio-Economic and Technical systems

Special Session Organizer:

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Focusing on the mathematical modeling of evolving socio-economic and technical systems, this session highlights contemporary research at the intersection of model construction and computational methodology. A core theme is the development of computable models that explicitly integrate essential feedback mechanisms, as well as robust frameworks for solving associated inverse problems of identification and calibration. The session specifically addresses challenges relevant to the analysis and control of dynamic systems under uncertainty and resource constraints.

Contributions will engage with the spectrum of mathematical techniques required to tackle these problems, including advanced nonlinear optimization, duality theory, optimal control under complex constraints, and the design of specialized numerical algorithms. The goal is to foster dialogue on unifying computational approaches for the analysis and simulation of complex, interconnected systems.