NUMTA 2026 Special Session on

Recent Trends on ODEs Methods, Low-Rank Approximations, and Image-Processing Techniques

Special Session Organizers:

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The aim of this special session is to bring together researchers working on numerical methods for differential equations, low-rank approximations, and image-processing techniques. These areas share several methodological tools, which can be applied across different contexts to improve existing approaches.

For instance, some image-processing techniques rely on the solution of differential problems and can be improved by low-rank approximations, which can also play an important role in optimizing numerical methods for differential equations.

More recently, similar tools have found increasing relevance in the design and analysis of neural network models, where differential equation-based formulations and low-rank structures contribute to efficient representations and scalable learning architectures.

The session is broad in scope, and contributions are not required to explicitly address all three topics simultaneously. Submissions from interested speakers are welcome.