# ADVANCED NUMERICAL METHODS AND ALGORITHMS FOR DIFFERENTIAL AND INTEGRAL EQUATIONS

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## ABSTRACT

The minisymposium will focus on the latest advancements in the development and application of numerical techniques for solving differential and integral equations, which play a pivotal role in modeling complex phenomena across various fields such as physics, engineering, geology and biology. This session will highlight innovative numerical methods, with an emphasis on accuracy, stability, structure preservation, efficiency and error analysis. Moreover, it will contemplate advanced computational strategies and high performing algorithms for a wide range of problems. Key topics will include, but are not limited to, the discretization of differential equations, also of fractional order, the solution of integral equations and of related inverse problems. The minisymposium aims to bring together researchers to discuss the theoretical and computational challenges in the numerical simulation of real-life problems, and to illustrate the proposed approaches.