

Preface

This Book of Abstracts includes the works showcased during the *RISING STARS Group (RSG)* presentations held at the Istituto di Matematica Applicata e Tecnologie Informatiche of the Consiglio Nazionale delle Ricerche (Genoa, Italy). The contributions were collected for the final event, the CNR-IMATI Workshop, 1st Edition, which took place in Genoa on December 16, 2025.

The contributions illustrate the ongoing research activities developed within and in collaboration with CNR-IMATI, highlighting the interdisciplinarity that characterizes the Institute's scientific mission. The collected abstracts span the field of applied mathematics and information technologies, with a particular focus on methodological, numerical, and application-oriented aspects.

More specifically, the contributions show scientific activities carried out in the following research areas, i.e., *shape and signal modeling, biomedical data processing, urban data analysis, geological and environmental modeling, cybersecurity, and scientific computing*.

The *RSG* is conceived as an initiative to give visibility to emerging researchers and research lines within CNR-IMATI, enabling scientific exchange and encouraging dialogue across disciplines. In this context, the Workshop represents a moment of dissemination and an opportunity for discussion and feedback among researchers with different backgrounds and expertise.

The purpose of the event is to present these activities to a broad audience including university students, early-career and senior researchers, industries, and institutions, with the aim of promoting new collaborations and research projects, both in academic contexts and application-oriented contexts. A particular attention is devoted to applications with a strong impact for society, especially in the areas of life sciences, environmental sciences, and urban sciences, where quantitative methods and digital technologies play an increasingly central role.

The organizers would like to thank all authors, participants, and the CNR-IMATI Institute in Genoa for hosting and supporting the event.

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