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Sommario/riassunto	The Special Issue Modeling and Simulation in Engineering, belonging to the section Engineering Mathematics of the Journal Mathematics, publishes original research papers dealing with advanced simulation and modeling techniques. The present book, “Modeling and Simulation in Engineering I, 2022”, contains 14 papers accepted after peer review by recognized specialists in the field. The papers address different topics occurring in engineering, such as ferrofluid transport in magnetic fields, non-fractal signal analysis, fractional derivatives, applications of swarm algorithms and evolutionary algorithms (genetic algorithms), inverse methods for inverse problems, numerical analysis of heat and mass transfer, numerical solutions for fractional differential equations, Kriging modelling, theory of the modelling methodology, and artificial neural networks for fault diagnosis in electric circuits. It is hoped that the papers selected for this issue will attract a significant audience in the scientific community and will further stimulate research involving modelling and simulation in mathematical physics and in engineering.