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Sommario/riassunto	This illuminating text/reference presents a review of the key aspects of the modeling and simulation (M&S) life cycle, and examines the challenges of M&S in different application areas. The authoritative work offers valuable perspectives on the future of research in M&S, and its role in engineering complex systems. Topics and features: Reviews the challenges of M&S for urban infrastructure, healthcare delivery, automated vehicle manufacturing, deep space missions, and acquisitions enterprise Outlines research issues relating to conceptual modeling, covering the development of explicit and unambiguous models, communication and decision-making, and architecture and services Considers key computational challenges in the execution of simulation models, in order to best exploit emerging computing platforms and technologies Examines efforts to understand and

manage uncertainty inherent in M&S processes, and how these can be unified under a consistent theoretical and philosophical foundation Discusses the reuse of models and simulations to accelerate the simulation model development process This thought-provoking volume offers important insights for all researchers involved in modeling and simulation across the full spectrum of disciplines and applications, defining a common research agenda to support the entire M&S research community. Dr. Richard Fujimoto is a Professor in the School of Computational Science and Engineering at Georgia Institute of Technology, Atlanta, GA, USA. Dr. Conrad Bock is a Computer Scientist in the Systems Engineering Group under the Systems Integration Division (SID) of the Engineering Lab (EL) at the National Institute of Standards and Technology (NIST), Gaithersburg, MD, USA. Dr. Wei Chen is the Wilson-Cook Professor in Engineering Design and the Director of the Integrated Design Automation Laboratory (IDEAL) at Northwestern University, Evanston, IL, USA. Dr. Ernest Page is a Chief Engineer at The MITRE Corporation, McLean, VA, USA. Dr. Jitesh H. Panchal is an Associate Professor in the School of Mechanical Engineering at Purdue University, West Lafayette, IN, USA.