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Nota di contenuto	In Memoriam Professor Matthew G. Karlaftis -- Preface -- Motorway traffic flow optimisation in presence of vehicle automation and communication systems -- Characterizing Urban Dynamics Using Large Scale Taxicab Data -- Holistic Calibration of Microscopic Traffic Flow Models: Methodology and Real-World Application Studies -- Optimizing leisure travel: Is Big-Data ready to improve the joint leisure activities efficiency? -- Air Traffic Flow Management Data Mining and Analysis for In-Flight Cost Optimization -- Simulation Optimization Of Car-Following Models Using Flexible Techniques -- Computational Intelligence and Optimization for Transportation Big Data: Challenges and Opportunities -- Nature-Inspired Algorithms: Success and Challenges -- Comparative Study on Recent Metaheuristic Algorithms in Design Optimization of Cold-Formed Steel Structures -- Adaptive

Switching of Variable-Fidelity Models in Population-based Optimization -- Genetic Algorithms for the Construction of 22 and 23-level Response Surface Designs -- Reactive Power and Voltage Control Based on Mesh Adaptive Direct Search Algorithm -- Optimal placement of hysteretic dampers via adaptive sensitivity-smoothing algorithm -- Design of Tuned Mass Dampers via Harmony Search for Different Optimization Objectives of Structures -- Tailoring macro scale response of mechanical and heat transfer systems by topology optimization of microstructural details -- Aerodynamic Shape Optimization Using "Turbulent" Adjoint And Robust Design In Fluid Mechanics -- Hierarchical topology optimization for bone tissue scaffold: Preliminary results on the design of a fracture fixation plate -- Boundary constraint handling affection on slope stability analysis -- Black box Optimization for Engineering Design: Adaptive Statistical Surrogates and Direct Search Algorithms -- Life Cycle Analysis and Optimization of a Steel Building -- Optimization of Reinforced Concrete Columns Subjected to Uniaxial Loading -- The Effect of Stakeholder Interactions on Design Decisions -- A Fixed Point Approach to Bi-Level Multi-Objective Problems -- Reliability-based shape design optimization of structures subjected to fatigue -- A stress-test of alternative formulations and algorithmic configurations for the binary combinatorial optimization of bridge rehabilitation selection.

Sommario/riassunto

The chapters which appear in this volume are selected studies presented at the First International Conference on Engineering and Applied Sciences Optimization (OPT-i), Kos, Greece, 4-6 June 2014, and works written by friends, former colleagues and students of the late Professor M. G. Karlaftis; all in the area of optimization that he loved and published so much in himself. The subject areas represented here range from structural optimization, logistics, transportation, traffic and telecommunication networks to operational research, metaheuristics, multidisciplinary and multiphysics design optimization, etc. This volume is dedicated to the life and the memory of Professor Matthew G. Karlaftis, who passed away a few hours before he was to give the opening speech at OPT-i. All contributions reflect the warmth and genuine friendship which he enjoyed from his associates and show how much his scientific contribution has been appreciated. He will be greatly missed and it is hoped that this volume will be received as a suitable memorial to his life and achievements.