

Contents

Review and Applications of Metaheuristic Algorithms in Civil Engineering	1
Xin-She Yang, Gebrail Bekdaş and Sinan Melih Nigdeli	
Application of the Flower Pollination Algorithm in Structural Engineering	25
Sinan Melih Nigdeli, Gebrail Bekdaş and Xin-She Yang	
Use of Swarm Intelligence in Structural Steel Design Optimization	43
Mehmet Polat Saka, Serdar Carbas, Ibrahim Aydogdu and Alper Akin	
Metaheuristic Optimization in Structural Engineering	75
S.O. Degertekin and Zong Woo Geem	
Performance-Based Optimum Seismic Design of Steel Dual Braced Frames by Bat Algorithm	95
Saeed Gholizadeh and Hamed Poorhoseini	
Genetic Algorithms for Optimization of 3D Truss Structures	115
Vedat Toğan and Ayşe Turhan Daloğlu	
Hybrid Meta-heuristic Application in the Asphalt Pavement Management System	135
Fereidoon Moghadas Nejad, Ashkan Allahyari Nik and H. Zakeri	
Optimum Reinforced Concrete Design by Harmony Search Algorithm	165
Gebrail Bekdaş, Sinan Melih Nigdeli and Xin-She Yang	
Reactive Power Optimization in Wind Power Plants Using Cuckoo Search Algorithm	181
K.S. Pandya, J.K. Pandya, S.K. Joshi and H.K. Mewada	

A DSS-Based Honeybee Mating Optimization (HBMO)	
Algorithm for Single- and Multi-objective Design of Water	
Distribution Networks	199
Omid Bozorg Haddad, Navid Ghajarnia, Mohammad Solgi, Hugo A. Loáiciga and Miguel Mariño	
Application of the Simulated Annealing Algorithm	
for Transport Infrastructure Planning	235
Ana Laura Costa, Maria Conceição Cunha, Paulo A.L.F. Coelho and Herbert H. Einstein	
A Hybrid Bat Algorithm with Path Relinking for the Capacitated	
Vehicle Routing Problem.	255
Yongquan Zhou, Qifang Luo, Jian Xie and Hongqing Zheng	
Hybrid Metaheuristic Algorithms in Geotechnical Engineering	277
Y.M. Cheng	

Metaheuristics and Optimization in Civil Engineering

Yang, X.-S.; Bekdaş, G.; Nigdeli, S.M. (Eds.)

2016, XI, 302 p. 110 illus., 75 illus. in color., Hardcover

ISBN: 978-3-319-26243-7