Contents

Part I  Keynote Speech

Big Data Analytics—A Brief Research Synthesis. .......................... 3
Peter Nielsen

Part II  Invited Session: Advances in Methods for Managing Complex Planning Environments

Towards Cyclic Scheduling of Grid-Like Structure Networks .......... 13
Robert Wójcik, Grzegorz Bocewicz and Zbigniew Banaszak

Concept of Indoor 3D-Route UAV Scheduling System ................. 29
Yohanes Khosiawan, Izabela Nielsen, Ngoc Anh Dung Do
and Bernardo Nugroho Yahya

Material Supply Scheduling for a Mobile Robot with Supply Quantity Consideration—A GA-based Approach ............... 41
Izabela Nielsen, Ngoc Anh Dung Do, Peter Nielsen
and Yohanes Khosiawan

An Integrated Declarative Approach to Decision Support for Scheduling Groups of Jobs. .......................... 53
Jarosław Wikarek

Lead Times and Order Sizes—A not so Simple Relationship ......... 65
Peter Nielsen, Zbigniew Michna, Ngoc Anh Dung Do
and Brian Bruhn Sørensen

Part III  Systems Analysis and Modeling

Decisional DNA Based Conceptual Framework for Smart Manufacturing ......................................................... 79
Syed Imran Shafiq, Cesar Sanin, Edward Szczerbicki and Carlos Toro
Fuzzy Stage Dependent Travelling Salesman Problem
with Networks as Nodes ........................................... 89
Dorota Kuchta

Aspects of Structure Selection and Parameters Tuning of Control
Systems Using Hybrid Genetic-Fruit Fly Algorithm .................. 101
Jacek Szczypta and Krystian Łapa

On the Application of a Hybrid Genetic-Firework Algorithm
for Controllers Structure and Parameters Selection ................. 111
Krystian Łapa and Krzysztof Cpałka

Gene Expression Programming in Correction Modelling
of Nonlinear Dynamic Objects .................................... 125
Łukasz Bartczuk

An Application of Neural Networks to Control Stability
of an Articulated Vehicle in Real Time .............................. 135
Kornel Warwas and Krzysztof Augustynrek

Extended Recognition Effectiveness of a Sonar System .......... 147
Teodora Dimitrova-Grekow and Marcin Jarczewski

Experimental Examination of Facilities Layout Problems in Logistics
Systems Including Objects with Diverse Sizes and Shapes ........ 159
Jerzy Grobelny and Rafał Michalski

A Concept of a Flexible Approach to the Facilities Layout
Problems in Logistics Systems ....................................... 171
Jerzy Grobelny and Rafał Michalski

Smart Innovation Management in Product Life Cycle .............. 183
Mohammad Maqbool Waris, Cesar Sanin and Edward Szczerbicki

Transformation in Model Driven Architecture ....................... 193
Matilda Drozdova, Martin Kardos, Zuzana Kurillova and Boris Bucko

Conflictless Task Scheduling Concept ................................ 205
Mateusz Smoliński

Joint Train Rescheduling and Track Closures Planning:
Model and Solution Algorithm ........................................ 215
Grzegorz Filcek, Dariusz Gąsior, Maciej Hojda and Jerzy Józefczyk

Computer Aided Scheduling and Routing of Vehicle-Carrier
Fleet—A Case Study .................................................. 227
Andrzej Kozik, Robert Koziarski, Paweł Świątek and Patryk Schauer

Author Index .......................................................... 239
Borzemski, L.; Grzech, A.; Świątek, J.; Wilimowska, Z. (Eds.)
2016, XIV, 239 p. 84 illus., 49 illus. in color., Softcover
ISBN: 978-3-319-28553-5