Contents

Rough-Granular Computing in Human-Centric Information Processing
Tuan Trung Nguyen and Andrzej Skowron ........................... 1

Integrative Levels of Granularity
Yiyu Yao ........................................................ 31

Affinities between Perceptual Granules: Foundations and Perspectives
James F. Peters and Sheela Ramanna ............................. 49

Concept Granular Computing Based on Lattice Theoretic Setting
Wen-xiu Zhang, Hong-zhi Yang, Jian-min Ma, and Guo-fang Qiu ... 67

Interpretability of Fuzzy Information Granules
Corrado Mencar .................................................. 95

Semantic Driven Fuzzy Clustering for Human-Centric Information Processing Applications
Paulo Fazendeiro and José Valente de Oliveira .................... 119

Many-Valued Logic Tools for Granular Modeling
Siegfried Gottwald .............................................. 153

Type-2 Fuzzy Logic and the Modelling of Uncertainty in Applications
Robert John and Simon Coupland ................................ 185

Interval Type-2 Fuzzy Logic Applications
Oscar Castillo and Patricia Melin .................................. 203
Processing of Information Microgranules within an Individual’s Society
Bruno Apolloni, Simone Bassis, and Antonio G. Zippo ............... 233

Autonomous Composition of Fuzzy Granules in Ambient Intelligence Scenarios
Giovanni Acampora, Vincenzo Loia, and Athanasios V. Vasilakos ...... 265

Information Processing in Biomedical Applications
Nick J. Pizzi ....................................................................... 289

Gene Interactions Sub-networks and Soft Computing
Ranajit Das and Sushmita Mitra ........................................... 313

Uncertain Identification Problems in the Context of Granular Computing
Tadeusz Burczyński and Piotr Orantek ............................... 329

Visualizing Huge Image Databases by Formal Concept Analysis
Kazuhito Sawase, Hajime Nobuhara, and Barnabas Bede ............. 351

Artificial Dendritic Cells: Multi-faceted Perspectives
Julie Greensmith and Uwe Aickelin ................................... 375

Index .................................................................................. 397

Author Index .......................................................................... 403