Preface

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The International Symposium on Multiple-Valued Logic (ISMVL) provides an international platform for presenting and discussing new trends and recent developments in the area of multi-valued logic and related fields. This special issue features a selection of distinguished papers from ISMVL 2022 and ISMVL 2023. These papers were chosen for their relevance and significant contributions, highlighting a range of impactfull advancements in the field.

The first paper explores the parametrised complexity of the Promise Constraint Satisfaction Problem (PCSP). Authors Kristina Asimi, Libor Barto, and Victor Dalmau introduce the concept of the left-hand side restricted PCSP and provide a sufficient condition for W[1]-hardness.

The second paper examines the fine-grained complexity of graph homomorphism problems. By viewing these problems as Constraint Satisfaction Problems (CSPs), Ambroise Baril, Miguel Couceiro, and Victor Lagerkvist highlight the significance of partial polymorphisms of binary symmetric relations. Their results include resolving the Okrasa and Rzewski conjecture for all graphs with up to 7 vertices.

The third paper presents the quantum implications in orthomodular posets. The authors Kadir Emir and Jan Paseka show that it is possible to introduce multiple-valued implications for every orthogonal lub-complete poset. These operations share characteristic properties with quantum implications presented by Kalmbach. Additionally, the authors provide several other relevant properties.

Finally, the last paper investigates the properties of quotient algebras of normal eo-algebras. It demonstrates a one to one correspondence between

the set of all closed filters and the set of all closed congruences. Furthermore, it shows that every normal eo-algebra is isomorphic to a specific subdirect product of subdirectly irreducible normal eo-algebras.

We would like to extend our gratitude to all the authors for their valuable contributions to this special issue. We also express our sincere thanks to the members of the Program Committees of ISMVL2022 and ISMVL2023, as well as to all external reviewers, for their exceptional work in evaluating the submissions, providing detailed feedback, and offering constructive suggestions to the authors. Lastly, we wish to thank Dan Simovici, Editor-in-Chief of the Journal of Multiple-Valued Logic and Soft Computing, for his support in publishing this special issue.