The Research Review category for JDM was introduced a few months back. This issue is the first to contain a research review paper. In this issue, we have one research review paper and three research papers.

The research review paper, “Conceptual Modelling and Ontology: Possibilities and Pitfalls,” is by Ron Weber. It discusses why ontological theories can be used to inform conceptual modelling research, practice, and pedagogy. The paper provides examples from the author’s research to illustrate how a particular ontological theory has enabled the author to improve his understanding of certain conceptual modelling practices and grammars. The author also describes how this theory is used to generate several counterintuitive and surprising predictions about widely advocated conceptual modelling practices. Finally, the paper points out several possibilities and pitfalls associated with using ontological theories to underpin research on conceptual modelling.

The first research paper, “Modeling Temporal Dynamics for Business Systems,” is by Gove N. Allen and Salvatore T. March. In this paper, the authors argue that temporal dynamics are semantic rather than structural, and that the existing constructs in the E-R model are sufficient to represent them. Their point of view is supported by the fact that practitioners have long used E-R models without temporal extensions to design systems with rich support for temporality by modelling both things and events as entities.

The second research paper, “Transformations Between UML Diagrams,” is by Petri Selonen, Kai Koskimies, and Markku Sakkinen. The paper investigates how to specify transformation operations between different diagram types. The authors discuss various general approaches and viewpoints of model transformations in UML. The source and target diagram types for useful transformations are analyzed and categorized. The potentially most interesting transformation operations are discussed in detail. The authors argue that the transformation operations could automate a substantial part of both forward and reverse engineering.

The third research paper, “RORIB: An Economic and Efficient Solution for Real-Time Online Remote Information Backup,” is by Scott J. Lloyd, Joan Peckham, Jian Li, and Qing Yang. In this paper, current backup methods are discussed and evaluated for response time and cost. A prototype device driver, RORIB (Real-time Online Remote Information Backup) is presented and discussed. An experiment is conducted comparing the performance, in terms of response time, of the prototype and several current backup strategies.