This issue of the *International Journal of Web Services Research* (IJWSR) collects four papers related to Web services composition.

The first paper is titled *Protocol-level Service Composition Mismatches: A Petri Net Siphon Based Solution*. Xiong, Pu and Zhou present a Petri net siphon-based solution to tackle service composition mismatch problem at the protocol level. Toward a higher efficiency, they propose a composition net and take into consideration future deadlock state to find an optimal solution.

The second paper is titled *Optimal Fault Tolerance Strategy Selection for Web Services*. Zheng and Lyu tackle the reliability issue of service-oriented systems. They present a framework handling distributed fault tolerance strategy evaluation and selection, featuring an optimal fault tolerance strategy selection algorithm. A prototype is implemented together with real-world experimental results.

The third paper is titled *Satisfying End User Constraints in Service Composition by Applying Stochastic Search Methods*. Lecure and Mehandjiev formulate service selection problem as a constraint satisfaction problem, and study its optimization issue by proposing an approach that selects the first composition passing predefined quality threshold.

The forth paper is titled *The MACE Approach for Caching Mashups*. Hassan, Ramaswamy and Miller study the performance and scalability aspects of Web 2.0 mashups. In this paper, we study caching-based approaches to improve efficiency and scalability of mashups platforms. They present a caching framework equipped with a mashup structure-aware indexing scheme, a dynamic cache placement technique, as well as taxonomy awareness.