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

The first paper is titled “An Optimal and Complete Algorithm for Automatic Web Service Composition.” Rodriguez-Mier, Mucientes, Vidal, and Lama tackle the problem of Web service automatic composition, using an algorithm aiming to find all valid compositions from the angle of the semantic input-output message structure matching. The underpinning is a service dependency graph. Scalability is considered.

The second paper is titled “A Scalable Multi-Tenant Architecture for Business Process Executions.” Pathirage, Perera, Kumara, Weerasiri, and Weerawarana propose a scalable multi-tenant workflow engine, toward providing Workflow as a Service on the cloud. Multiple business processes are allowed to run simultaneously within the engine. The design and implementation of the workflow engine is presented. Performance factor is studied.

The third paper is titled “Lightweight Wireless Web Service Communication Through Enhanced Caching Mechanisms.” Papageorgiou, Schatke, Schulte, and Steinmetz address the issue of reducing the size of data transmission in Web services-enabled mobile applications. They propose a solution that leverages cached responses with a complete freshness ensured. Evaluation studies are reported as well.

The fourth paper is titled “Composite Service Recommendation based on Bayes Theorem.” Wu, Chen, Jian, and Wu tackle Web services testing from logs of web service execution, including service functionality, QoS record, and execution order. Bayesian approach is applied to analyze service execution logs and recommend service sequences. Experimental results are also reported.

Liang-Jie Zhang  
Editor-in-Chief  
IJWSR
Liang-Jie (LJ) Zhang is Senior Vice President, Chief Scientist, & Director of Research at Kingdee International Software Group Company Limited, and director of The Open Group. Prior to joining Kingdee, he was a Research Staff Member at IBM Thomas J. Watson Research Center. Dr. Zhang has published more than 140 technical papers in journals, book chapters, and conference proceedings. He has 40 granted patents and more than 20 pending patent applications. Dr. Zhang received his PhD on Pattern Recognition and Intelligent Control from Tsinghua University in 1996. He chaired the IEEE Computer Society's Technical Committee on Services Computing from 2003 to 2011. He also chaired the Services Computing Professional Interest Community at IBM Research from 2004 to 2006. Dr. Zhang has served as the Editor-in-Chief of the International Journal of Web Services Research since 2003 and is the founding Editor-in-Chief of IEEE Transactions on Services Computing. He was elected as an IEEE Fellow in 2011, and in the same year won the Technical Achievement Award "for pioneering contributions to Application Design Techniques in Services Computing" from IEEE Computer Society. Dr. Zhang also chaired the 2012 IEEE 1st International Conference on Services Economics (SE 2012) and the 2009 IEEE International Conference on Cloud Computing (CLOUD 2009).