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General Information

Alexey Cheptsov is a senior scientific researcher at the High Performance Computing Center Stuttgart (HLRS). He obtained a PhD degree in Progressive Information Technology in 2007. He was technical leader and R&D coordinator of the EU ICT projects DORII (2008-2010) and LarKC (2008-2011), accordingly. He also coordinated HPC-Europa2 project's Trans Access Activities in Germany during 2010-2012. His actual research interest focuses on large-scale Semantic Web Technologies (Reasoning, Data Mining, etc.) and Big Data provision technology in Cloud and High Performance Computing domains. As by December 2015, he is involved in EU projects JUNIPER and DreamCloud.

Data analytics, including such topic as Big Data and Smart Data, is an essential research direction with which Alexey Cheptsov has been dealing at HLRS. The importance of supercomputing support for data-centric application workflows was recognised with the emergence of the Big Data hive at the research horizon in about 2010. Alexey was working in the direction of enabling a very promising HPC technology – Message Passing Interface (MPI) – to data analytics application. One of the first results in this work direction was published at the **IARIA's SEMAPRO conference** in 2012 (A. Cheptsov: Enabling High Performance Computing for Semantic Web Applications by Means of Open MPI Java Bindings). This work was distinguished with a Best Paper award. The research results described in the paper had paved the way to a promising technology of Java applications support by supercomputers, taken up by numerous research, innovation, and industrial projects in the EU and internationally. In 2013, Alexey in cooperation with Axel Tenschert presented an implementation of a challenging Semantic Web use case – Statistical Semantic Spaces analysis – with the previously elaborated technology. This publication won the Best Paper Award at the **IARIA's SEMAPRO conference** in 2013 (A. Cheptsov, A. Tenschert: Parallel Search Through Statistical Semantic Spaces for Querying Big RDF Data Proceedings of the Seventh International Conference on Advances in Semantic Processing, pp. 1-6). The success of the participation at the IARIA conference was taken up by Alexey's student Raoul Schönhof, whose paper (R. Schönhof, A. Tenschert, A. Cheptsov: Towards Legal Knowledge Representation System Leveraging RDF. Proceedings of the Eighth International Conference on Advances in Semantic Processing, pp. 13-16) was nominated for publication at the **IARIA's International Journal On Advances in Software**.