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## A New Role of Ontologies and Advanced Scientific Visualization in Big Data analytics



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### Abstract

Accessing and contextual semantic searching structured, semi-structured and unstructured information resources and their ontology based analysis in a uniform way across text-free Big Data query implementation is a main feature of approach under discussion. To increase the semantic power of query results' analysis the ontology based implementation of multiplatform adaptive tools of scientific visualization are demonstrated. The ontologies are used not for integration of heterogeneous resources in traditional way but for parallel analysis of recourses and its related ontologies to achieve the effect of a virtual integration.

### Short Bio

Chuprina's main research interests are in the broad field of artificial intelligence (AI) and scientific visualization, where she mainly focuses on sub-fields of machine learning, data-driven science, Data and Text Mining, scientific data visualization, cognitive computer graphics, and ontology engineering methods. Current focus of her work is both on applications of artificial intelligence to Big Data problems and on the use of Big Data in AI (e.g. in modelling, learning, problem-solving, contextual searching, multi-

modal analytics). These are applied through various collaborations to applications in diverse areas.