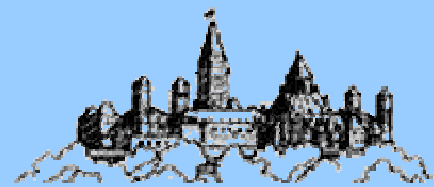




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# Ottawa Section

## IEEE 125<sup>th</sup> EMBS Seminar Series



# Query-based composition of chemical Semantic Web services

**Dr. Michel Dumontier**

*Associate Professor, Department of Biology, Carleton University*



Modern biological knowledge discovery requires access to machine-understandable data that can be searched, retrieved, and subsequently analyzed using a wide array of analytical software and services. The Semantic Automated Discovery and Integration (SADI) framework is a set of conventions to formalize web service inputs and outputs using OWL ontologies that enable the automatic discovery and invocation of Semantic Web services. In this talk, I will walk through a worked example in the design and deployment of chemical semantic web services using the Chemical Development Toolkit, chemical descriptors from the Chemical Information Ontology (CHEMINF), and the SemanticScience Integrated Ontology (SIO) as a unifying, upper level ontology of basic types and relations. I will discuss how one can make use of the SADI-enabled SHARE client to reason about data obtained from Bio2RDF, the largest linked open data project, and automatically invoke chemical semantic web services to determine a chemical's drug-likeness. If you want to see the potential of the Semantic Web being realized, this talk is for you.

Dr. Michel Dumontier is an Associate Professor of Bioinformatics at Carleton University in the Department of Biology, Institute of Biochemistry and School of Computer Science. He is a term-appointed Associate Professor at the Département d'informatique et de génie logiciel, Université Laval, is a member of the Ottawa Institute of Systems Biology and the Ottawa-Carleton Institute for Biomedical Engineering. He leads the Translational Medicine task force for the W3C's Semantic Web in Health Care and Life Sciences Interest Group (HCLSIG) and was a participant in the development of the Web Ontology Language (OWL2). Dr. Dumontier's research is focused around developing a computational platform for personalized medicine, which involves biochemical knowledge representation and reasoning as well as developing efficient approaches in biochemical modeling and simulation. With over 40 research publications in workshops, conferences, and journals, his innovative research is developing exciting opportunities towards pharmacogenomic based knowledge discovery.

**March 9, 2011**

*admission is free*

**18:00 – 19:30 pm  
ME-3174**

**Carleton University**

*Light refreshment will be served*



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