Two trends are emerging in the World Wide Web (WWW). The first is the proliferation of Web Services -- self-contained, Web-accessible software applications and associated distributed systems architectures. The second is the emergence of the "Semantic Web", the vision for a next-generation WWW that is computer interpretable. Today's Web was designed primarily for human use. The vision of Semantic Web Services is to enable reliable, large-scale automation of Web service discovery, invocation, interoperation, composition, monitoring and verification. This will be achieved by describing the properties and capabilities of Web services in an unambiguous, machine-understandable form. In this talk we briefly overview efforts to develop languages and ontologies for describing Web services, focusing on OWL-S, an OWL (Ontology Web Language) ontology for Web services. We follow this with a brief discussion of computational techniques for automating the composition of Web service.

Bio: Sheila McIlraith is an Associate Professor in the Department of Computer Science at the University of Toronto. Prior to joining the faculty at U of T in 2004, Dr. McIlraith was a research scientist at Stanford University for six years, and a postdoctoral fellow at Xerox PARC for one. Her current research spans three areas: knowledge representation and reasoning for Web services on the Semantic Web; automated planning and diagnosis; and efficient automated reasoning. Dr. McIlraith has authored over 50 refereed papers. She is an associate editor of the journal Artificial Intelligence and past chair of a number of scholarly meetings including the Third International Semantic Web Conference. She was on the advisory board of the joint EU-North American Semantic Web Services Initiative (SWSI), a technical member of its language committee (SWSL), and a founding member of the DAML Coalition for Semantic Web Services. These initiatives resulted in both the OWL-S and SWSL ontology recommendations to the the World Wide Web Consortium (W3C).