

NSERC CREATE ULSS Distinguished Seminar

Grammar Manipulation in a Broad Sense

Grammar theory is well-known for being a useful and mature instrument to investigate the structure of software: since software languages often turn out to be infinite, it is useful to have those reflected and defined by finite specifications (i.e., grammars). However, structural commitments have a much broader scope than textual syntactic conformance. Protocols, data types, schemata, API, metamodels, etc can be viewed as grammars in a broad sense. Such a uniform view allows us to develop

methods (almost) universally applicable to various areas of software language engineering, and --- even more interestingly --- investigate and enforce consistency across several definitions of the same intended language.

In this talk, we will show various examples of grammars in a broad sense, as well as techniques that work on them. In particular, the focus will be on programmable grammar transformation, grammar mutation and grammar convergence.

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10:30 - 11:30 am

Walter Light Hall 302

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Dr. Vadim Zaytzev is a lecturer at the University of Amsterdam (The Netherlands) who acquired his PhD in 2010 at the Free University of Amsterdam in the field of software language engineering and has worked in the meantime in University of Koblenz (Germany) and Centrum Wiskunde & Informatica. Besides hardcore software language engineering with grammar(ware) technology, his interests and research activities tend to invade such topics as

source code analysis and transformation, modelling, metamodeling and megamodeling, programming paradigms, declarative and functional programming, programming design rules, maintenance and renovation of legacy systems, reverse and re-engineering and others. More information can be found on <http://grammarware.net/> and <http://grammarware.github.io>