PIMS Distinguished Visitor Series

Join **Professor Fairouz Kamareddine**, Heriot-Watt University, School of Mathematical & Computer Sciences, as she explores
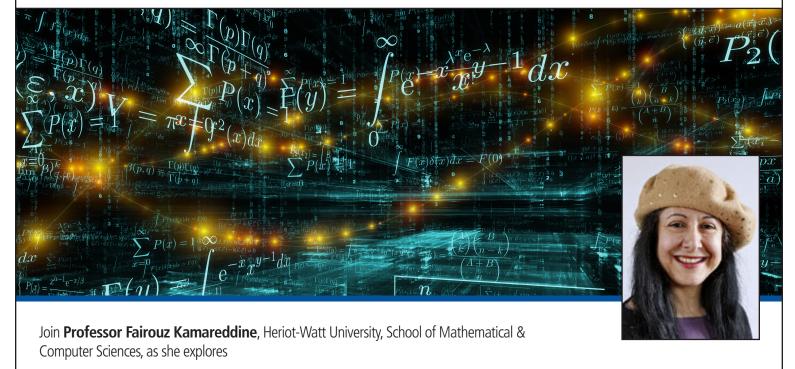
Computerising Mathematical texts with MathLang

Mathematical texts can be computerised in many ways. At one end there is document imaging, at the other there are proof assistants (Mizar, Isabelle, Coq, etc.).In between, there are typesetting (e.g., LaTeX and MathML) and semantically oriented (e.g., OpenMath and OMDoc) systems. MathLang is an approach for computerising mathematical texts which is flexible enough to connect the different approaches to computerisation, allowing various degrees of formalisation and compatibility with different logical frameworks (set/category/type theory) and proof systems.

MathLang adds, checks, and displays various information aspects on mathematical texts. One aspect is a weak type system that assigns categories (term, statement, noun, adjective, etc.) to parts of the text, and checks that grammatical sense is maintained. Another aspect allows identifying chunks of text, marking their roles (theorem, definition, explanation, example, section, etc.), and indicating relationships between the chunks (A contradicts B, A follows from B, etc.). Further aspects allow additional formality such as proof structure and details of how a human-readable proof is encoded into a fully formalised version of Mizar/Isabelle/Coq. In this talk we survey the status of the MathLang project.

Thursday February 5, 2015 | 12:15-1:30 pm
B730, University Hall, University of Lethbridge

Professor Kamareddine's academic career is at the interface of Mathematics, Logic and Computer Science where she has been involved in a number of worldwide consultancy assignments at various levels of institutions ranging from universities to the United Nations. She gained her PhD in Informatics from the University of Edinburgh in 1989. She has held academic and research positions in the Netherlands, France, and the UK as well as numerous visiting invitations to Japan and the USA.

Don't miss Professor Kamareddine's first talk on Monday February 2nd:
Types and Functions since Principia and computerisation of Language and mathematics
Learn more at uleth.ca/artsci/event/64690