

# MSDL

**Modelling, Simulation and Design Lab**

Summer Research Presentations.

Friday 29 September 2009.



**McGill**

School of Computer Science

# Modelling, Simulation and Design Lab



Former MSDL-ers, now out in the Real World

# Model Everything !

- ... at most appropriate level of abstraction
- ... using the most appropriate formalism(s)
- ... transformations are first-class models

Theory/Techniques/Tool support

- **applications of domain-specific** modelling (and simulation)
  - software design (electronic ID, dependable systems, GUI, ...)
  - physical (mechatronics, Waste Water Treatment, ...)
  - traffic
- domain-specific **visual modelling**
  - specification of reactive behaviour
  - link concrete (textual and visual) and abstract syntax
- **meta-modelling and model transformation**
  - AToM<sup>3</sup> modelling and model transformation tool
  - Graph Rewriting for model transformation
- **theory/foundations:**
  - new formalisms, multi-formalism modelling
  - formalism transformation, model evolution

# Schedule

**9:00 - 9:30 Hans Vangheluwe**

**Modelling, Simulation and Design Lab research "big picture"**

**Theme: modelling/synthesizing behaviour of physical systems**

**9:30 - 10:00 Chahe Adourian**

**Representing geometry (CAD) information in dynamic (Modelica) models**

**10:00 - 10:30 10:00 Silvia Mur Blanch (presented by HV)**

**Statecharts modelling/synthesis of iCreate robot behaviour**

**10:30 - 11:00 slack, discussions, coffee**

**Theme: applications and foundations**

**11:00 - 11:30 Fei Men**

**e-commerce teaching simulation**

**11:30 - 12:00 Xiaoxi Dong**

**XMI import/export of AToM3 models**

**12:00 - 13:00 walk to and lunch at Eaton food court**

## **Theme: Statecharts for Model-based design**

**13:00 - 13:30 Reehan Shaikh**

**UML 2.0 Statecharts and Modelica**

**13:30 - 14:00 Jake Beard**

**modelling and synthesis of user interfaces for complex, web-based modelling environments**

**14:00 - 14:30 Raphael Mannadiar (presented by HV)**

**domain-specific modelling (DSL 2 Android)**

**14:30 - 15:00 slack, discussions, coffee**

## **Theme: Transformations**

**15:00 - 15:30 Marc Provost**

**efficient hierarchical sub-graph matching**

**15:30 - 16:00 Eugene Syriani**

**structured model transformation (anthill in MoTif)**

**16:00 - 16:30 Massimo Tisi**

**comparing model transformations and HOT**

**16:30 - 17:00 Amr Al Mallah (presented by HV)**

**a testing framework for model transformations**

**17:00 - 17:30 conclusions, discussions, planning the MSDL Canoe Trip**