Spring School

5th Montreal Scientific Computing Days

April 30 – May 2, 2008

www.crm.math.ca/Comp08

Organizing Committee

Michel Delfour	(CRM & DMS, Montréal), Chair
André Fortin	(GIREF, Laval)
Thomas P. Wihler	(Math and Stat., McGill)

Sponsors

Laboratoire de Mathématiques Appliquées, Centre de recherches mathématiques (CRM), Canada
Mathematics of Information Technology and Complex Systems (MITACS), Canada

Intended audience

Senior undergraduate and graduate students, post-doctoral fellows, and young researchers, academics, private and public participants.

Graduate students and postdoctoral fellows

A limited budget is reserved for lodging and living expenses of graduate students and postdoctoral fellows. Applications must be made on the website (www.crm.math.ca/Comp08). A short CV and one reference letter is required. The deadline for application is March 26, 2008. Time slots have been set aside for short presentations by graduate students and postdoctoral fellows.

Short courses speakers

Paul-Louis George (INRIA, GAMMA project, France)
Automatic mesh generation and adaptive methods*
www-c.inria.fr/gamma/eng.htm

Yousef Saad
(Computer Science and Engineering, Minnesota, USA)
Iterative methods for sparse matrix problems
www-users.cs.umn.edu/~saad/

Jaap van der Vegt
(Electrical Engineering, Mathematics and Computer Science, Twente, Netherlands)
Development, analysis and application of finite element methods for partial differential equations*
wwwhome.math.utwente.nl/~vegtjjw/

* Tentative title

Objectives

To foster scientific exchanges within the scientific computing community; to train senior undergraduate and graduate students, post-doctoral fellows, and young researchers in the form of three minicourses given by world recognized experts in the general areas of scientific computing in Science, Engineering and Medicine; to maximize interactions between the students, the senior participants, and the main speakers by reserving up to half of the time for student presentations; to encourage the participation of non-academic (private or public sector) research or other organizations.

First CRM-INRIA-MITACS Meeting

May 5-9, 2008

www.crm.math.ca/CIMM08

Organizing Committee

Michel Delfour	(CRM & DMS, Montréal), Chair
Marc Thiriet	(INRIA Paris & CNRS)
Fahima Nekka	(MITACS & Pharmacie, Montréal)
Yves Bourgault	(Math & Stat., Ottawa)

Partners

CRM - Centre de recherches mathématiques, Université de Montréal, Canada
INRIA - Institut National de Recherche en Informatique et Automatique, France
MITACS - Mathematics of Information Technology and Complex systems, Canada

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Main topics and invited speakers

Heart
(imaging, electrophysiology, electromechanical coupling, perfusion, valves)

Youssef Belhamadia	University of Alberta
Yves Bourgault	Université d'Ottawa
Dominique Chapelle	MACS, INRIA Paris
Maxime Sermesant	ASCLEPIOS, INRIA Sophia Antipolis
Michel Sorine	SISYPHE, INRIA Paris
Irène Vignon-Clementel	REO, INRIA Paris

Physiological flows
(imaging, rheology, fluide-structure interactions, multiscale coupling, validation, stress-mediated angiogenesis)

Marie-Isabelle Farinas	Université du Québec à Chicoutimi
André Garon	École Polytechnique de Montréal
Céline Grandmont	REO, INRIA Paris
Robert G. Owens	Université de Montréal
Tony W. H. Sheu	National Taiwan University
Raymond Spiteri	University of Saskatchewan

Brain imaging and function

Christian Barillot	VISAGES, INRIA Rennes
Maureen Clerc	ODYSSEE, INRIA Sophia Antipolis
Frédéric Lesage	École Polytechnique de Montréal
Jean-Marc Lina	École de Technologie Supérieure, Montréal
Jiri Patera	Université de Montréal

Composite media, multiscale modeling, optimal shape and design

Michel Delfour	Université de Montréal
André Fortin	GIREF, Université Laval
Michel Fortin	GIREF, Université Laval
Paul-Louis George	GAMMA, INRIA Paris
Jean-Paul Zolésio	OPALE, INRIA Sophia Antipolis

Biological systems, cell, and tissues

Jacques Bélair	Université de Montréal
Jean Clairambault	BANG, INRIA Paris
François Fages	CONTRAINTES, INRIA Paris
Peter Swain	McGill University
Marc Thiriet	REO, INRIA Paris

Implantable medical devices, drug delivery

Michel Delfour	Université de Montréal
Paul Farand	Médecine, Université de Sherbrooke
Fahima Nekka	Pharmacie, Université de Montréal
Gérard Plante	Institut de Pharmacologie, Université de Sherbrooke

Objectives

The CRM and INRIA has had a longstanding cooperation. On August 24, 1973, a cooperation agreement was signed between M. L'Abbé (VP Research, U de M), L. Le Cam (director of the CRM) and the academician J. L. Lions (director) of the LABORIA of the Institut de Recherche d'Informatique et d'Automatique (IRIA – initial name of INRIA). In 2003 the "Équipe INRIA associée à l'étranger ACE"(Aérosols, Cœur, Endoprothèses) (Aerosols, Heart, Endoprotheses) was created by INRIA (www-c.inria.fr/who/Marc.Thiriet/ACE/) with the participation of the CRM, GIREF and the University of Ottawa and later expanded to include Taiwan. In May 2005 a Spring School and a Workshop on Mini invasive procedures in Medicine and Surgery (www.crm.umontreal.ca/Med05/indexen.html) took place in Montreal and was cosponsored by the CRM, INRIA, and MITACS. The cooperation of the CRM with INRIA was expanded in 2005 by the exchange and cooperation agreement with the Quebec government (FQRNT) as part of its educational and industrial strategies. Following the recent visit of the president of INRIA, Michel Cosnard, at MITACS headquarters at the end of July 2007, this meeting is a timely opportunity to foster cooperative links between INRIA, MITACS, and the Canadian Institutes building on the cooperation record of the CRM.

CENTRE DE RECHERCHES MATHÉMATIQUES

INSTITUT NATIONAL DE RECHERCHE EN INFORMATIQUE ET EN AUTOMATIQUE

INRIA

MITACS

Centre de recherches mathématiques

Montréal, Canada

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