

**IRMACS Day marks the launch of the IRMACS 2011
Thematic Year showcasing Scientific Modelling at SFU**

IRMACS Day Program - April 7th

11:30 - 12:00 - Opening Remarks

12:00 - 12:25 - **Mr. Ali Khalili Araghi**, winner of the Peter Borwein Annual Graduate Scholarship in Mathematics & Computational Modelling of Complex Systems
"Intelligent Decision Support for Marine Safety and Security Operations"

12:30 - 1:20 - **Dr. Eric Winsberg**, Philosopher of Science, University of South Florida
"Reflections on the Verification and Validation of Computer Simulations"

1:30 - 2:30 - Poster Session/Light Refreshments

2:30 - 4:00 - IRMACS Modelling Consortium Open House speakers include:

2:30 - 3:00 - **Dr. Alexander (Sandy) Rutherford**, Complex Systems Modelling Group (CSMG)
"Can Mathematical Modelling Make Better Public Policy?"

3:00 - 3:30 - **Dr. Vahid Dabbaghian**, Modelling of Complex Social Systems (MoCSSy) Program
"The Last Three Years in the MoCSSy Program"

3:30 - 4:00 - **Dr. Krisztina Vasearhelyi**, Interdisciplinary Modelling for the Prevention, Care and Treatment of HIV (IMPACT-HIV)
"Modelling Treatment as Prevention - New Approaches to Combating the HIV Epidemic"



www.irmacs.sfu.ca

The SFU IRMACS Centre presents

IRMACS Thematic Year 2011 SCIENTIFIC Modelling at SFU

April 7 Sixth Annual IRMACS Day Featuring:
Dr. Eric Winsberg
Special guest speaker and a philosopher of science, University of South Florida
Mr. Ali Khalili Araghi
winner of the 2010 Peter Borwein Annual Graduate Scholarship in Mathematics & Computational Modelling of Complex Systems
Poster Session
IRMACS Modelling Consortium Open House

April 8 Modelling of Complex Social Systems Presentations
Dr. Anna-Karin Tornberg
Courant Institute
(PIMS-CSC Distinguished Lecture Series)

Spring-Fall Monthly Modelling Showcases

Summer IRMACS Modelling Summer School

Fall IMC Colloquium Series
Coast to Coast Seminar Series

December 2 Scientific Modelling at SFU
Open Forum on communication and collaboration between modelling groups, joint academic and scientific projects

For more information please contact Veselin Jungic at vsj@irmacs.sfu.ca

Organizing Committee:
Peter Borwein (IRMACS)
Peter Borwein (Mathematics & IRMACS)
Patricia Braithwaite (Criminology)
Vahid Dabbaghian (IRMACS)
Brian Fisher (SIAT)
Uwe Glaeser (Computing Science)
Veselin Jungic (Mathematics & IRMACS)
Hiromi Matsui (IRMACS)
Arne Moores (Biology)
Sandy Rutherford (IRMACS)
Ljiljana Trajkovic (ENSG)

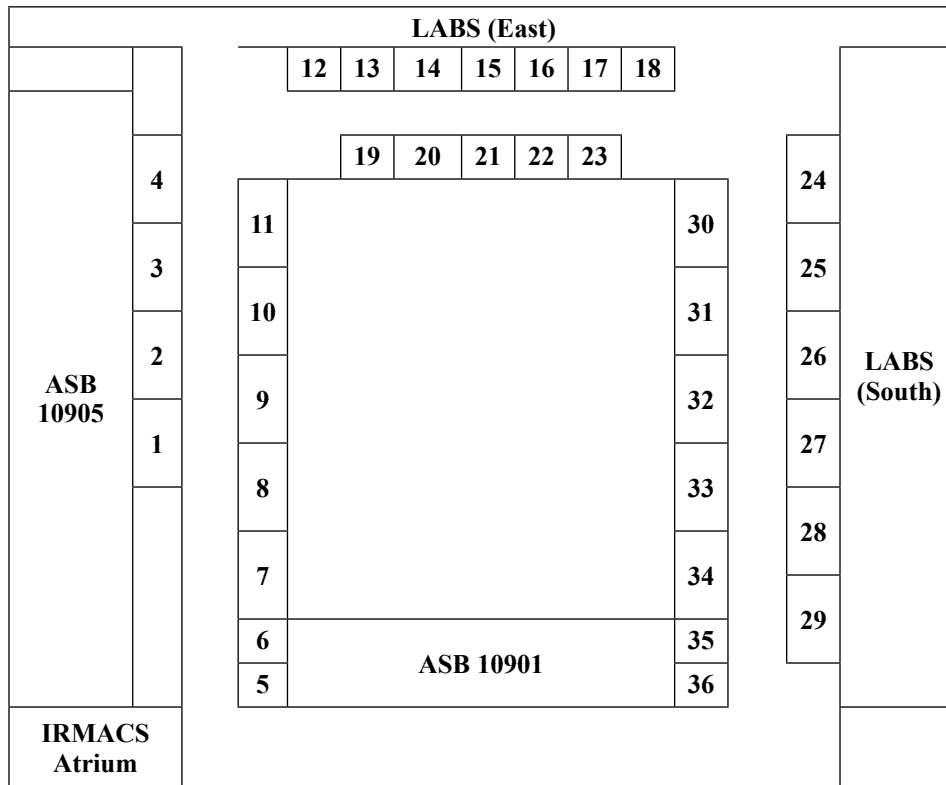
SFU SIMON FRASER UNIVERSITY
THINKING OF THE WORLD

irmacs Centre

HOSTED BY THE IRMACS CENTRE

**the 6th Annual IRMACS Day
April 7th, 2011**

6th Annual IRMACS Day Poster Presentations



1. Title: ***AoSPL: Aspect-oriented Software Product Lines***
 Authors: Marko Boskovic, Gunter Mussbacher, Ebrahim Bagheri, Daniel Amyot, Dragan Gasevic, & Marek Hatala
 Affiliation: SIAT, SFU Surrey; SCIS, Athabasca University; SITE, University of Ottawa

2. Title: ***Integrating Stakeholders' Intentions and Preferences into Feature Oriented Development***
 Authors: Mohsen Asadi, Samaneh Soltani, Dragan Gasevic & Marek Hatala
 Affiliation: SIAT, SFU Surrey; SCIS, Athabasca University

32. Title: ***Clearing House, Margin Requirements, and Systemic Risk***
 Authors: Jorge A. Cruz Lopez, Jeffrey H. Harris, and Christophe Pérignon
 Affiliation: Faculty of Business Administration, SFU; University of Delaware and Southern Methodist University; HEC Paris

33. Title: ***Bioinformatics Approaches for Analyzing Short-Read Illumina Sequences of Whole Mycobacterium Tuberculosis Genomes from an Outbreak***
 Authors: Bhavjinder K. Dhillon, Shannon J. Ho Sui, Jennifer L. Gardy, Robert C. Brunham, Patrick Tang, Fiona S.L. Brinkman
 Affiliation: Brinkman Laboratory, Department of Molecular Biology and Biochemistry, SFU; Department of Microbiology and Immunology, UBC; British Columbia Centre for Disease Control

34. Title: ***Interactive Exploratory Analysis of Immunological Data using PCA-based Visualization***
 Authors: Samar Al-Hajj, Richard Arias-Hernández, and Brian Fisher
 Affiliation: SIAT, SFU Surrey

35. Title: ***Modelling treatment as a strategy to reduce HIV transmission***
 Authors: Duruo (Eric) Cai, and Ralf W. Wittenberg
 Affiliation: Department of Mathematics, SFU

36. Title: ***Models in Ecology and Evolution: Diverging Problems, Intersecting Approaches***
 Authors: Bernard Roitberg, Mick Wu, Alex Chubaty, Mike Wogin, Jordan Bannerman and Erica Jeffery
 Affiliation: Behavioral Ecology Research Group and Centre For Pest Management, Department of Biology

24. Title: ***Multipedal Molecular Spider Simulations***
Authors: Nancy Forde, Laleh Samii, and Martin Zuckermann
Affiliation: [Department of Physics, SFU](#)
25. Title: ***Phylogenetic clumping does not prune the tree of life much***
Authors: Rakesh Parhar and Arne Mooers
Affiliation: [Department of Biology, SFU](#)
26. Title: ***Partial Differential Equation Models for Exemplar Dynamics***
Authors: Paul Tupper and JF Williams
Affiliation: [Department of Mathematics, SFU](#)
27. Title: ***Impedance Based Concentration Profile Measurements In a Microfluidic Flow System***
Authors: Avneet Bajwa, Sumanpreet Chhina, Sae Won Lee, Behraad Behreyini and Ash M. Parameswaran
Affiliation: [Institute of Micromachine and Microfabrication Research, School of Engineering, SFU](#)
28. Title: ***The Poetics of Movement Quality Visualization***
Authors: Pat Subyen, Diego Maranan, Thecla Schiphorst, Philippe Pasquier, and Lyn Bartram
Affiliation: [Art-Performance Research Group, SIAT, SFU](#)
29. Title: ***The Illusion of Togetherness | Action.Plot | Scuddle***
Authors: Kristin Carlson, Greg Corness, Thecla Schiphorst, Philippe Pasquier, and Chris Shaw
Affiliation: [Art-Performance Research Group, SIAT, SFU](#)
30. Title: ***Revealing Somatic Experiences in Dance Performance***
Authors: Diego Maranan, Thecla Schiphorst, Steve Dipaola, Alissa Antle, Pat Subyen, and Lyn Bartram
Affiliation: [Art-Performance Research Group, SIAT, SFU](#)
31. Title: ***Fluid Flow and Heat Transfer in Micromachines***
Authors: John Jones and Nilgoon Zarei
Affiliation: [School of Engineering Science, SFU](#)
3. Title: ***Modelling and Configuration of Service-Oriented Software Product Lines***
Authors: Bardia Mohabbati, Dragan Gasevic, & Marek Hatala
Affiliation: [SIAT, SFU Surrey; SCIS, Athabasca University](#)
4. Title: ***Leveraging Social Semantic Web Technologies for Organizational Learning***
Authors: Melody Siadaty, Dragan Gasevic, Marek Hatala, & Liaqat Ali
Affiliation: [SIAT, SFU Surrey; SCIS, Athabasca University](#)
5. Title: ***Collection and Characterization of BCNET BGP Traffic***
Authors: Mojtaba Abkenar, Nabil Al-Rousan, Tanjila Farah, Rajvir Gill, Sukhchandani Lally, Ravinder Paul, Don Xu, and Ljiljana Trajković
Affiliation: [Communication Networks Laboratory, School of Engineering Science, SFU](#)
6. Title: ***Analyzing an Offender's Journey to Crime: A Criminal Movement Model (CriMM)***
Authors: Natalia Iwanski, Richard Frank, Vahid Dabbaghian, Andrew Reid and Patricia Brantingham
Affiliation: [ICURS and The MoCSSy Program, SFU](#)
7. Title: ***Modelling the Pull of Attractors using Fuzzy Partitions***
Authors: Vijay Mago, Richard Frank, Andrew Reid, Natalia Iwanski and Vahid Dabbaghian
Affiliation: [The MoCSSy Program, SFU](#)
8. Title: ***New Inhibitors of Influenza Virus A Neuraminidase***
Authors: Sankar Mohan, Sarah McAtamney, Thomas Haselhorst, Mark von Itzstein, Philip S. Kerry, Rupert J. Russell, Masahiro Niikura, Nicole Bance, Amgad Albohy, Ruixiang Blake Zheng, Christopher W. Cairo, and B. Mario Pinto
Affiliation: [Department of Chemistry, SFU, Canada; Institute of Glycomics, Griffith University, Australia; Centre for Biomolecular Sciences, University of St.Andrews, U.K.; Faculty of Health Sciences, SFU, Canada; Department of Chemistry, University of Alberta, Canada](#)

9. Title: ***A 3D model of interactions between macrophages and tumor cells during metastasis***
Authors: Hildur Knutsdottir and Eirikur Palsson
Affiliation: Department of Physics and Department of Biology, SFU
10. Title: ***Intelligent Decision Support System for Marine Safety & Security Operations***
Authors: Uwe Glässer, Piper Jackson, Ali Khalili Araghi and Hamed Yaghoubi Shahir
Affiliation: Software Technology Lab, School of Computing Science, SFU
11. Title: ***Model of a Water-Filled Pore in Ultrathin Catalyst Layers of PEFCs***
Authors: Karen Chan and Bedanta Chhetri
Affiliation: Department of Chemistry and Department of Mathematics, SFU
12. Title: ***The Immersed Boundary Method***
Authors: Brittany Froese and Jeff Wiens
Affiliation: Department of Mathematics, SFU
13. Title: ***Lattice Boltzmann Method for Fluid Simulations***
Authors: Yuanxun Bill Bao and Justin Meskas
Affiliation: Department of Mathematics, SFU
14. Title: ***Taylor-Couette Flow***
Authors: Haowen Fang and Pouyan Khalili
Affiliation: Department of Mathematics, SFU
15. Title: ***Image Registration by Fluid Models***
Authors: Stephanie Langille and Sonoko Nakano
Affiliation: Department of Mathematics, SFU
16. Title: ***Solution of Navier-Stokes Equations on a Domain With Moving Boundary***
Authors: Bebart Janbek and Eric Zhong
Affiliation: Department of Mathematics, SFU
17. Title: ***Kelvin-Helmholtz Instability***
Authors: Reanne Bowlby and Parousia Rockstroh
Affiliation: Department of Mathematics, SFU
18. Title: ***Unravelling the Resonant Instabilities of a Stratified Gravity Wave***
Authors: David J. Muraki and Yuanxun Bill Bao
Affiliation: Department of Mathematics, SFU
19. Title: ***Natural Convection***
Authors: Mehran Ahmadi, Golnoosh Mostafavi and Kelsey Wong
Affiliation: Mechanical Engineering, School of Engineering Science, SFU Surrey
20. Title: ***Modelling the effects of acidosis on neuronal and cardiac action potentials***
Authors: C.H. Peters, D.K. Jones, Y.V. Vilin, and P.C. Ruben
Affiliation: Department of Biomedical Physiology and Kinesiology, SFU
21. Title: ***Data Gaps in the Development of Agent-based Models of Physical Activity in the Built Environment***
Authors: Danijela Gasevic, Carrie L. Matteson, Mona Vajihollahi, Egor Chalubeyeu, Molly A. Acheson, Scott A. Lear, Diane T. Finegood
Affiliation: Department of Biomedical Physiology and Kinesiology, SFU
22. Title: ***Network Analysis Provides New Insights to Key Variables and Feedback Loops in the Obesity System Map***
Authors: Tommy D. Merth, Carrie L. Matteson, Diane T. Finegood
Affiliation: Department of Biomedical Physiology and Kinesiology, SFU
23. Title: ***Estimating the Rate of HIV Transmission in British Columbia, Canada***
Authors: Vasarhelyi K., Ramadanovic B., Adams A., Kok S., Gustafson R., Montaner JSG, Wittenberg R, Hogg RS, Lima VD, and Rutherford AR
Affiliation: British Columbia Centre for Excellence in HIV/AIDS, Vancouver; The IRMACS Centre, Simon Fraser University, Burnaby; Department of Mathematics, University of British Columbia, Vancouver; Department of Mathematics, Simon Fraser University, Burnaby; Vancouver Coastal Health Authority, Vancouver, B.C.