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?"

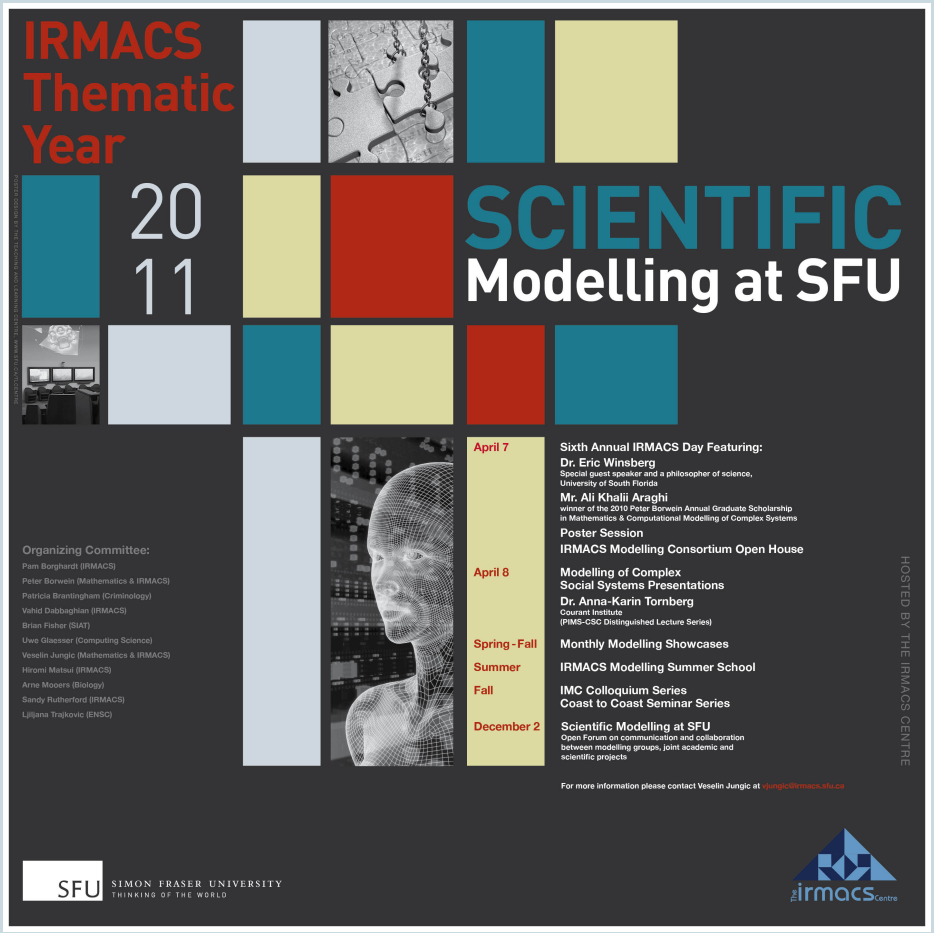
3:00 - 3:30 - **Dr. Vahid Dabbaghian**, Modelling of Complex Social Systems (MoCSSy) Program
"The Last Three Years in the MoCSSy Program"

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"

The irmacs Centre

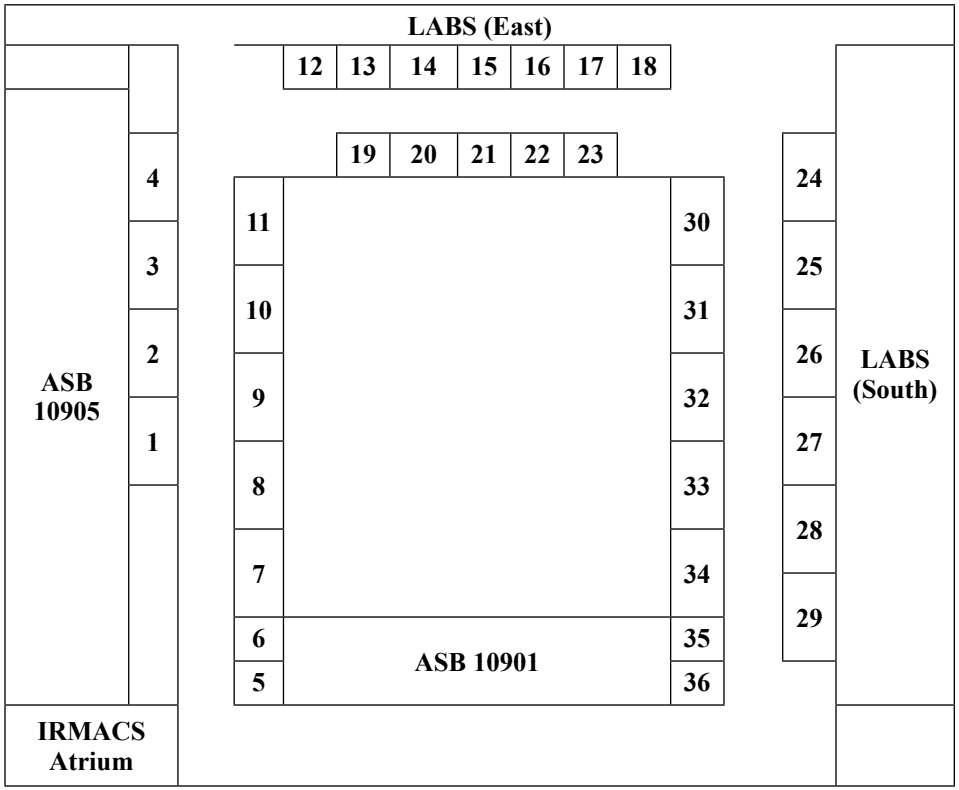
www.irmacs.sfu.ca

The SFU IRMACS Centre presents



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 Behreyni 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, Sukhchandan 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.