

Program—Theory Canada 7

THURSDAY 7 JUNE 2012

7-9 pm

**posters, opening reception,
and registration**

Markin Hall atrium

Poster Session: Presenters

Sheikh Jamil Ahmed (Lakehead)
Computer simulation of functional materials for therapeutic ultrasound

Mohammed Alzamil (Riyadh)
Study of the ideality factor for non-ideal diodes

Ali Darbandi (Lakehead)
Microscopic modelling of high-field charge transport in a-Se

Valerio Faraoni (Bishop's)
The endpoint of black hole collapse in scalar-tensor gravity

Alireza Hojjati (Simon Fraser)
Cosmological tests of general relativity: a principal component analysis

Ali Nassar (Lethbridge)
Rational conformal field theory and matrix level for strings on a torus

Shohreh Rahmati (Lethbridge)
Vacuum polarization and Hawking radiation

Michael Skotiniotis (Calgary)
Efficient quantum communication under collective noise

Adamantia Zampeli (Lethbridge)
Signs and cosmology

Posters will remain on display throughout the conference.

FRIDAY 8 JUNE 2012

8:30-9 am welcome, registration **Turcotte Hall 201**

Session 1: Gravitation, Cosmology, and Astrophysics **Turcotte Hall 201**

Chair: Richard MacKenzie (Montréal)

9:00 am Harald Pfeiffer (CITA)
Gravitational wave physics and binary black holes

9:30 am Levon Pogolian (Simon Fraser)
Primordial magnetism in CMB B-modes

10:00-10:30 am BREAK

10:30 am Manu Paranjape (Montréal)
How to measure the speed of gravity

10:50 am Wissam Chemissany (Turin)
Holography for non-relativistic systems

11 :10 am Ariel Edery (Bishop's)
The Gibbs free energy in the collapse to a RN black hole

11:30 am Gabor Kunstatter (Winnipeg)
Geometrodynamics of Lovelock gravity

11:50 am -1:50 pm LUNCH

Session 2: Quantum Gravity and Strings **Turcotte Hall 201**

Chair: Manu Paranjape (Montréal)

1:50 pm Tomas Liko (Alberta)
Manifold invariants affect dynamics in quantum gravity

2:10 pm Jonathan Ziprick (Perimeter)
Point particle dynamics in 3d semiclassical loop gravity

2:30 pm Haryanto Siahaan (Saskatchewan)
Kerr-Sen spacetime in generalized hidden Kerr/CFT correspondence

2:50 pm Vincent Bouchard (Alberta)
Gluing pairs of pants

3:10-3:40 pm BREAK

3:40 pm Keshav Dasgupta (McGill)
F-theory, Seiberg-Witten curves and N=2 dualities

4:10 pm Cecilia Flori (Perimeter)
Group action in topos quantum physics

4:40-5:10 pm BREAK

Session 3: Quantum Physics and Information

Turcotte Hall 201

Chair: Gabor Kunstatter (Winnipeg)

5:10 pm Giulio Chiribella (Perimeter)
Reconstructing quantum theory from quantum information principles

5:40 pm Michael Skotiniotis (Calgary)
Operational interpretation of the G-asymmetry for Abelian groups

6:00-7:00 pm BREAK

7:00 pm **BANQUET**

**Coulee Junction
6th floor, south end of
University Hall**

SATURDAY 9 JUNE 2012

8:40 am Borzu Toloui (Calgary)
Simulating covariant transformations with local operations

9:00 am Khulud Almutairi (Calgary)
Matter copy dynamics in a Bose-Einstein condensate

9:20 am Barry Sanders (Calgary)
Universal quantum simulation for fun and profit

9:50-10:20 am BREAK

Session 4: Condensed Matter and General Theory**Turcotte Hall 201**

Chair: Ken Vos (Lethbridge)

- 10:20 am Jordan Kyriakidis (Dalhousie)
Adiabatic quantum computation
- 10:50 am Gordon Semenoff (UBC)
Engineering holographic graphene
- 11:20 am Oleg Rubel (Lakehead)
On momentum conservation in disordered semiconductors
- 11:40 am Kaori Tanaka (Saskatchewan)
Effects of band structure and electron-phonon coupling on
charge density waves
- 12 noon-2:00 pm LUNCH

Session 5: Subatomic and Mathematical Physics**Turcotte Hall 201**

Chair: Rainer Dick (Saskatchewan)

- 2:00 pm Thomas Grégoire (Carleton)
Supersymmetry with Dirac gaugino masses
- 2:30 pm Tom Osborn (Manitoba)
Aharonov-Bohm effect without potentials
- 3:00-3:30 pm BREAK
- 3:30 pm Dinesh Singh (Regina)
A new perspective on path integral quantum mechanics in curved space-time
- 3:50 pm Patrick Desrosiers (Talca)
Superconformal field theory and Jack superpolynomials
- 4:10 pm John Dixon (Toronto)
Progress on a new way to break SUSY

SUNDAY 10 JUNE 2012

Excursion and /or transport to Calgary

5 June 2012