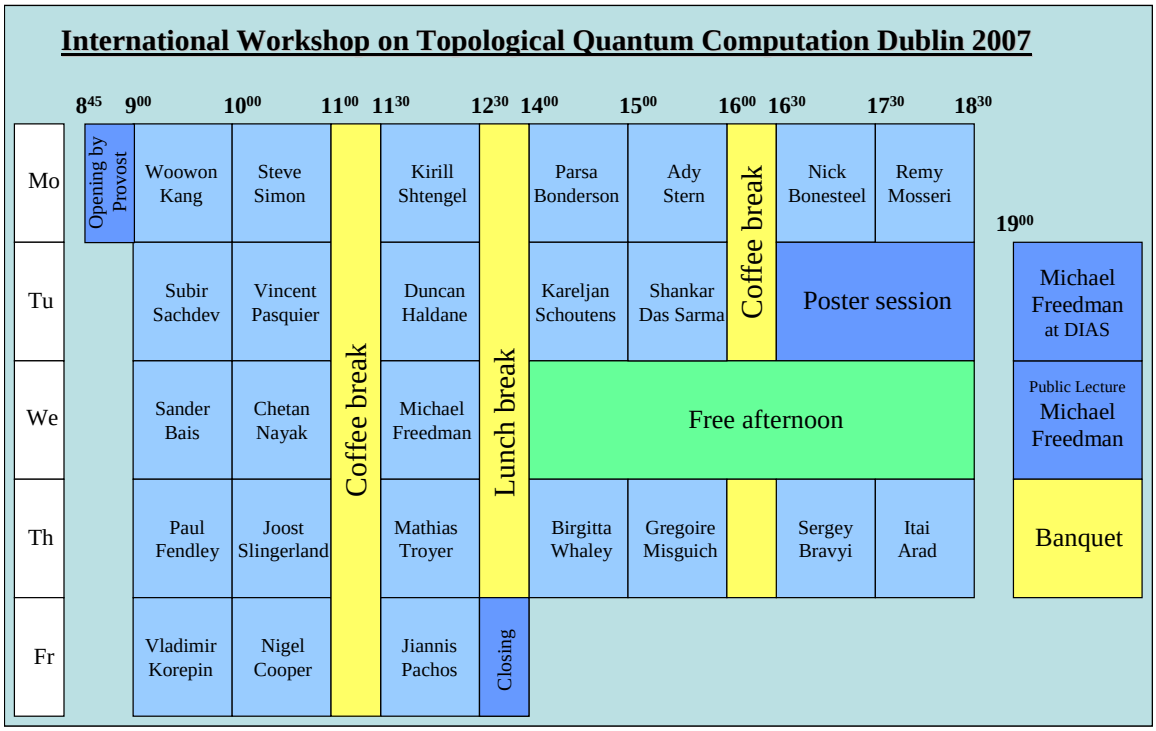
Program of International Workshop on Topological Quantum Computing
Hamilton Mathematics Institute, Trinity College Dublin, 10 -14 September, 2007

A) Timetable



B) List of presentations

MONDAY September 10

OPENING by Provost of Trinity College Dublin Professor John Hegarty

Woowon KANG
Experimental Investigation of Quantum Hall Interferometers

Steve SIMON
Landau Level Mixing and Braiding Statistics / Bulk-Edge Coupling in the 5/2 Interferometer

Kirill SHTENGEL
Probing non-Abelian Statistics in the Fractional Quantum Hall Effect

Parsa BONDERSON
Interferometry with non-Abelian Anyons

Ady STERN
Proposed experiments to detect non-abelian quantum states

Nicholas BONESTEEL
Random Chains of Interacting Non-Abelian Quasiparticles

Remy MOSSERI
Geometrical approach to SU(2) navigation with Fibonacci anyons

TUESDAY September 11

Subir SACHDEV
Superconductors with topological order

Vincent PASQUIER
Quantum Hall Effect and orthogonal polynomials

Duncan HALDANE
Generalized Pauli principle for Read-Rezayi non-Abelian quantum Hall states

Kareljan SCHOUTENS
Bipartite Entanglement Entropy in Quantum Hall States

Shankar Das SARMA
Realistic topological quantum computation

POSTER SESSION

DIAS SEMINAR
Michael FREEDMAN
Positivity Three manifold Pairings
Location: School of Theoretical Physics, Dublin Institute for Advanced Studies
10 Burlington Road, 1st Floor, Dublin 4
Time: 7 pm

WEDNESDAY September 12

Sander BAIS
Topological symmetry breaking by Bose condensates

Chetan NAYAK
Broken Symmetry and Topological Order at $\nu=5/2$

Michael FREEDMAN
Measurement-only (topological) quantum computation

PUBLIC LECTURE (evening):
Michael FREEDMAN
How Topology Will Save Moore's Law:
Quantum Computation via Exotic States of Matter
Location: Schroedinger Lecture Theatre,
Department of Physics, Trinity College Dublin
Time: 7 pm

THURSDAY September 13

Paul FENDLEY
Finding Fibonacci

Joost SLINGERLAND
Finding and Solving Anyon Models

Matthias TROYER
Stability of topological phases

Birgitta WHALEY
Quantum Loop Gases and Topological Quantum Computation

Gregoire MISGUICH
Topological order in quantum dimer models

Sergey BRAVYI
Measurement-based quantum computation with Kitaev's toric code states

Itai ARAD
Quantum algorithms and universality with non-unitary representations of the braid group: applications to the Jones polynomial and the q-state Potts model

FRIDAY September 14

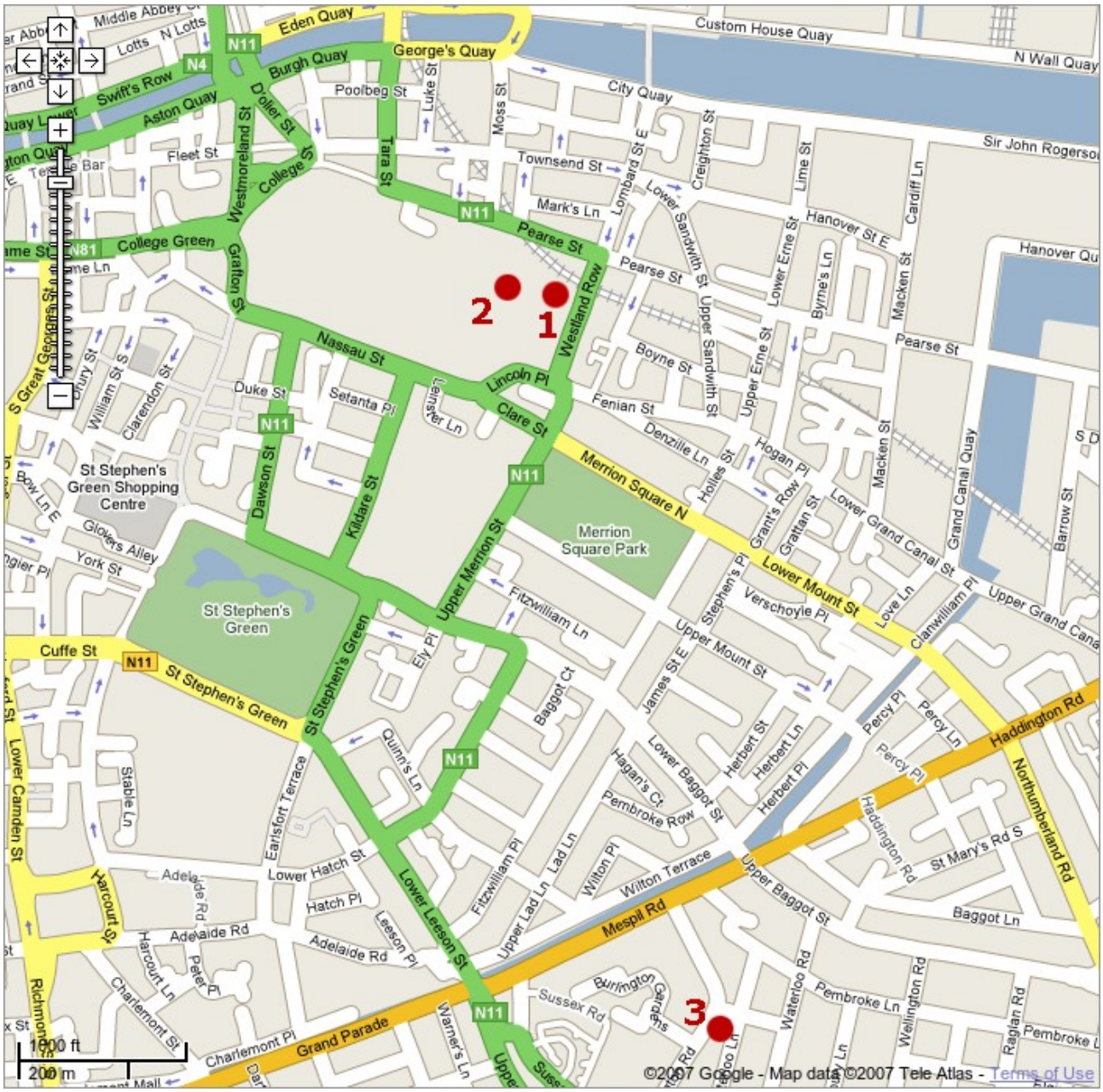
Vladimir KOREPIN
Entanglement in Spin Chains

Nigel COOPER
Towards Non-Abelian Phases in Ultracold Atomic Gases

Jiannis PACHOS
Anyonic statistics from entangled states

CLOSING REMARKS

MAP OF CONFERENCE LOCATIONS



1. Hamilton Maths Institute, Trinity College Dublin (Workshop Venue).
2. Schroedinger Lecture Theatre, Department of Physics,
   Trinity College Dublin (Public Lecture Venue).
3. Public Lecture Venue, School of Theoretical Physics,
   Dublin Institute for Advanced Studies (DIAS Seminar Venue).

LOCATIONS WITHIN TRINITY COLLEGE