Taipei
Density Matrix Renormalization Group
WINTER SCHOOL

http://web.phys.ntu.edu.tw/dmrg101
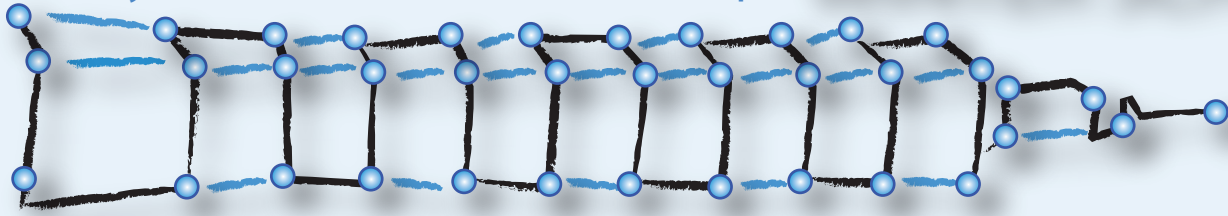
We are pleased to announce the second international "Winter School" on the Density Matrix Renormalization Group: **DMRG 101**

Following the successful first installment of the DMRG Winter School in Waterloo, Canada, we invite applications for the second Winter School ("DMRG 101"), to be held in Taipei, Taiwan December 7-9, 2012.

The Winter School is a three-day event designed to bring together students, postdocs, and faculty from around the world in a relaxed setting, to get an introductory understanding of the theory, methods, and implementation of the DMRG algorithm for use in the physical sciences. A large component of the Winter School will be a modern pedagogical introduction to the DMRG methodology, accessible to graduate students considering pursuing DMRG in their research. The Winter School will also highlight current cutting-edge research being performed in the physical sciences by DMRG practitioners around the world.

The topics to be discussed are:
- Introduction to the DMRG method for 1D equilibrium systems
- DMRG theory, Matrix Product States, and entanglement scaling
- Time-dependent DMRG and non-equilibrium phenomena
- Recent developments in dynamical DMRG
- Simulation of two-dimensional lattice models
- Tensor-network based methods

Other features of the program include:
- Hands-on tutorial sessions with a pedagogical code
- Access to an open source, public DMRG code repository
- Poster Sessions

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Invited Speakers

Adrian Feiguin
Northeastern University, USA

Miles Stoudenmire
University of California, Irvine, USA

Ian McCulloch
University of Queensland, Australia

Tao Xiang
Chinese Academy of Science, China

Robert Peters
University of Kyoto, Japan

Roman Orus
MPI for Quantum Optics, Germany

Fabian Heidrich-Meisner
LMU Munich, Germany

Hong-Chen Jiang
KITP Santa Barbara USA

Glen Evenbly
Caltech, USA

Ivan Gonzalez
CESGA, Santiago de Compostela, Spain

Roger Melko
University of Waterloo, Canada

Organizing Committee

Ying-Jer Kao
Hong-Yi Chen
Po-chung Chen

Fabian Heidrich-Meisner
Ivan Gonzalez
Roger Melko