Conference "Mathematical results of many-body quantum systems"
Herrsching, June 6-11, 2022

Monday, June 6

04:00 – 6:30 pm	Registration
06:30 – 07:30 pm	Dinner
07:30 – 08:00 pm	Introduction by Organizers

Tuesday, June 7

07:30 – 09:00 am	Breakfast
09:00 am	**Benjamin Schlein,** Dynamics of extended Fermi gases at high densities
09:45 am	**Simone Warzel,** The spectral gap in fractional Hall systems
10:30 – 11:00 am	Coffee break
11:00 am	**Christian Schilling,** Ensemble reduced density matrix functional theory for excited states and hierarchical generalization of Pauli's exclusion principle
11:45 am	**Jan Derezinski,** From Heun class to Painlevé
12:30 – 01:30 pm	Lunch
02:00 pm	**Niels Benedikter,** Collective Bosonization and the Correlation Energy of a Mean-Field Fermi Gas
02:45 pm	**Emanuela Giacomelli,** On the Huang-Yang energy correction for the dilute Fermi gas
03:30 – 04:00 pm	Coffee break
04:00 pm	**Gero Friesecke,** Rigorous results on the exact representation and approximation of many-electron wavefunctions by tensor networks
04:45 pm	**Elliott Lieb,** A simple equation that describes the ground-state energy of a Bose gas at low and high density and in dimensions one, two and three
06:30 – 07:30 pm	Dinner

Wednesday, June 8

07:30 – 09:00 am	Breakfast
09:00 am	**Robert Seiringer,** Energy asymptotics for Bose stars
09:45 am	**Matthew Rosenzweig,** Sharp estimates for variations of Coulomb and Riesz modulated energies
10:30 – 11:00 am	Coffee break
11:00 am	**Andreas Deuchert,** Dynamics of mean-field bosons at positive temperature
11:45 am	**Simone Rademacher,** Large deviation estimates for weakly interacting bosons
12:30 – 01:30 pm	Lunch
02:00 pm	**Marius Lemm,** Propagation bounds for the Bose-Hubbard model
02:45 pm	**Simon Larson,** On the Kronig-Penney model in a constant electric field
03:30 – 04:00 pm	Coffee break
04:00 pm	**Stefan Teufel,** First steps towards bulk-edge correspondence of transport coefficients in interacting fermion systems
04:45 pm	**Jürg Fröhlich,** A path-integral approach to interacting Bose gases
06:30 – 07:30 pm	Dinner
08:00 pm	**Israel Michael Sigal,** Some mathematical problems of quantum mechanics

Thursday, June 9

07:30 – 09:00 am	Breakfast
09:00 am	**Immanuel Bloch,** Exploring Kardar-Parisi-Zhang Universality in the Quantum Heisenberg Model
09:45 am	**Julien Sabin,** Nonlinear dynamics of relativistic quantum systems
10:30 – 11:00 am	Coffee break

11:00 am	**Jan Philip Solovej,** Dilute Bose and Fermi gases in dimensions 1-3
11:45 am	**Minh-Binh Tran,** On the wave turbulence theory for a stochastic KdV type equation
12:30 – 01:30 pm	Lunch
01:30 pm	Social activities
07:00 – 08:30 pm	Conference Dinner

Friday, June 10

07:30 – 09:00 am	Breakfast
09:00 am	**Søren Fournais,** The ground state energy of the dilute Bose gas in 2 and 3 dimensions
09:45 am	**David Gontier,** Spectral properties of materials cut in half
10:30 – 11:00 am	Coffee break
11:00 am	**Frank Pollmann,** Efficient Simulation of Quantum Transport in One-Dimensional Systems
11:45 am	**Simon Lukas Becker,** Mathematics of magic angles
12:30 – 01:30 pm	Lunch
02:00 pm	**Arnaud Triay,** The free energy of the dilute Bose gas
02:45 pm	**Konstantin Merz,** The Scott conjectures for large Coulomb systems
03:30 – 04:00 pm	Coffee break
04:00 pm	**Mathieu Lewin,** On infinite classical Jellium configurations and their potential
06:30 – 07:30 pm	Dinner

Saturday, June 11

07:30 – 09:00 am	Breakfast