



Synthetic Quantum Magnetism

International Workshop 31 August - 04 September 2015

Quantum magnetism, as it results from interactions between spin degrees of freedom, lies at the heart of many intriguing phenomena of condensed matter physics, like itinerant ferromagnetism, spin-liquid behavior of localised spins, or unconventional superconductivity. Recently there has been enormous progress in the experimental realisation of quantum magnetism in highly tunable engineered quantum systems such as trapped ions and ultracold atoms and molecules.

The aim of the workshop is to bring together experimentalists and theoreticians to discuss the status and the prospects of investigating magnetism in these new experimental platforms.

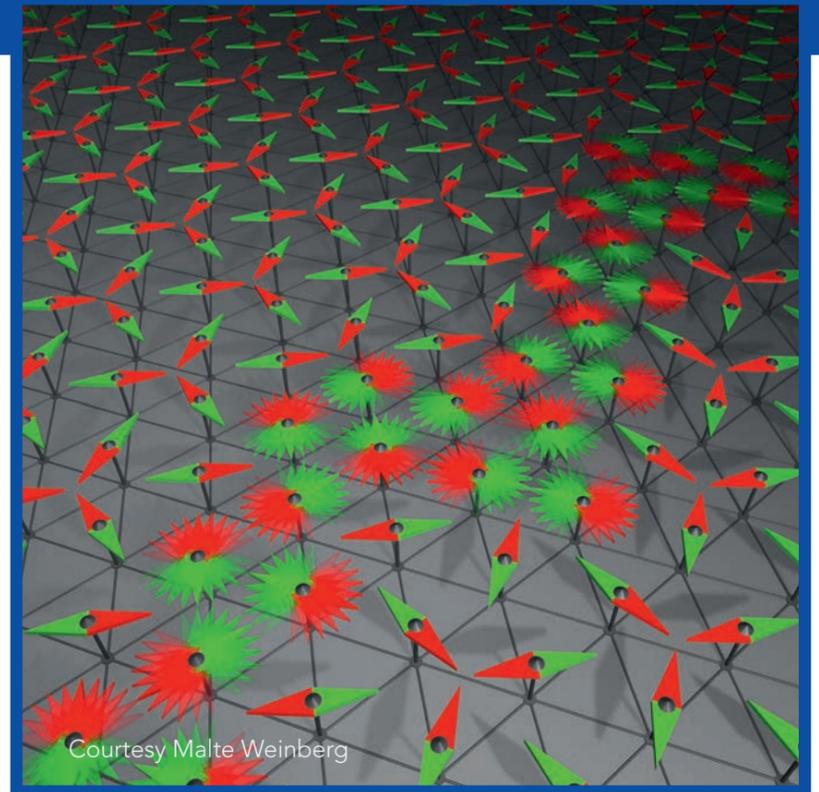
Topics include

- Ion traps
- Ultracold quantum gases
- Ultracold molecules
- Rydberg-excited atoms
- Dipolar atoms
- Optical-lattice Mott insulators
- Orbital excitations in optical lattices
- Magnetism with spinless lattice bosons
- Spinor-dynamics in Bose and Fermi gases
- SU(N)-symmetric interactions
- Floquet engineering in shaken lattices
- Quantum simulation
- Many-body quantum dynamics

Applications received before April 30, 2015 are considered preferentially.

Applications are welcome and should be made by using the application form on the conference web page (please see URL below). The number of attendees is limited. The registration fee for the international workshop is 120 Euro and should be paid by all participants. Costs for accommodation and meals will be covered by the Max Planck Institute. Limited funding is available to partially cover travel expenses. Please note that childcare is available upon request.

For further information please contact:
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Invited speakers

(* preliminarily confirmed)

R. Blatt (AT)
J.J. Bollinger (US)
M.A. Cazalilla (TW)
C. Chin (US)
M. Dalmonte (AT)
O. Dutta (PL)
S. Furukawa (JP)
M. Gajda (PL)
T. Grass (ES)
Ch. Gross (DE)
V. Gurarie (US)
Ph. Hauke (AT)
A. Hemmerich (DE)
R. Hulet (US)
B. Laburthe-Tolra (FR)
J. Larson (SE)
B.L. Lev (US)
Y. Li (CN)
W.V. Liu (US)

H.-I Lu* (US)
F. Mila (CH)
R. Moessner (DE)
H.-Ch. Nägerl (AT)
S. Nakajima (JP)
T. Pfau* (DE)
A.M. Rey (US)
A. Sanpera (ES)
J. Simonet (DE)
D. Stamper Kurn (US)
L. Tarruell (ES)
M. Troyer (CH)
C. Wu (US)
J. Ye (US)
P. Zoller (AT)
M. Zwierlein (US)

Scientific coordinators

A. Eckardt (DE)
M. Lewenstein (ES)
I. Spielman (US)
M. Ueda (JP)

Organisation

C. Domaschke (DE)