



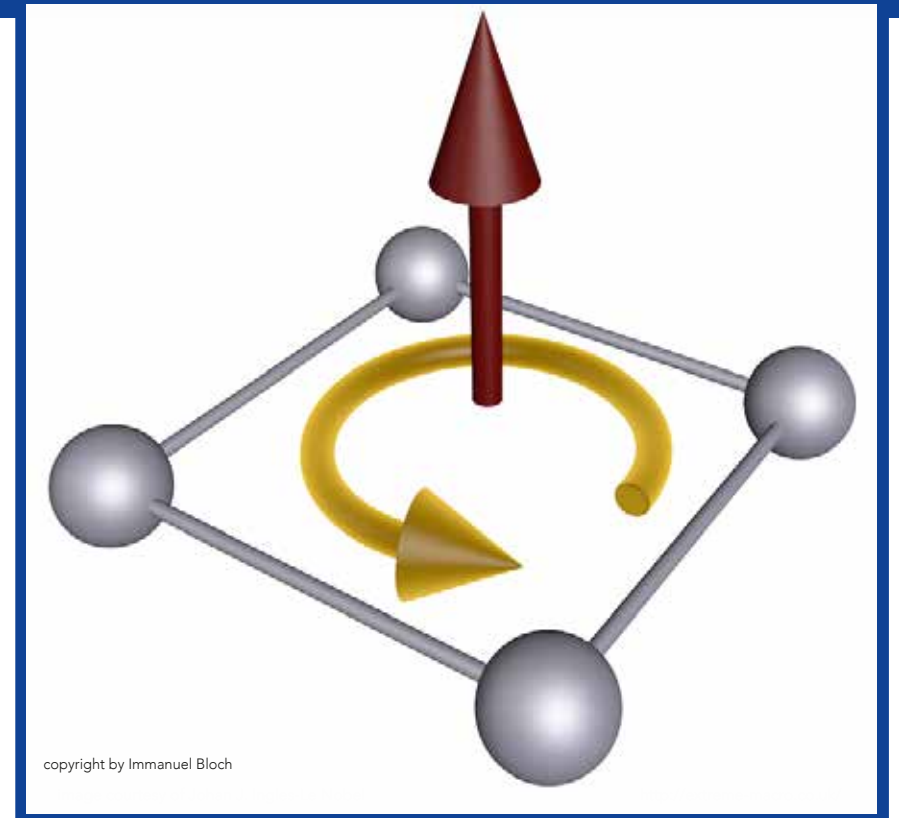
Topological Matter in Artificial Gauge Fields

International School 26 February - 02 March 2018

Gauge fields are fundamental for our modern understanding of physics at all scales. At high energies, the dynamics of elementary particles is governed by the exchange of gauge bosons. At mesoscopic scales, external gauge fields can dramatically change the properties of a material, seminal examples being the quantum Hall effects. Recently, the experimental realization of artificial gauge fields for neutral ultracold atoms has opened a door to the quantum simulation of topological quantum effects in well-controlled environments. The aim of this Winter School is to train a new generation of young researchers on the subject of artificial gauge fields.

Topics:

- Engineering artificial gauge fields in atomic quantum gases
- Topological insulators and band structures
- Topological order in strongly correlated states of matter
- Floquet engineering
- Hall ribbons from synthetic dimensions
- Topological charge pumping
- Gauge fields in photonic wave guides
- Irradiated topological matter in solid state systems



Lecturers:

Monika Aidelsburger (DE)
Nigel Cooper (UK)
André Eckardt (DE)
Fahad Mahmood (US)
Belén Paredes (DE)
Frank Pollmann (DE)
Ian Spielman (US)
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Scientific coordinators:

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supported by

DFG Deutsche
Forschungsgemeinschaft
FOR2414

Applications received before 10 November 2017 are considered preferentially.

Applications are welcome and should be made by using the application form on the event's web page. The number of attendees is limited. The registration fee for the international school 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.

For further information please contact:

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