mpipks

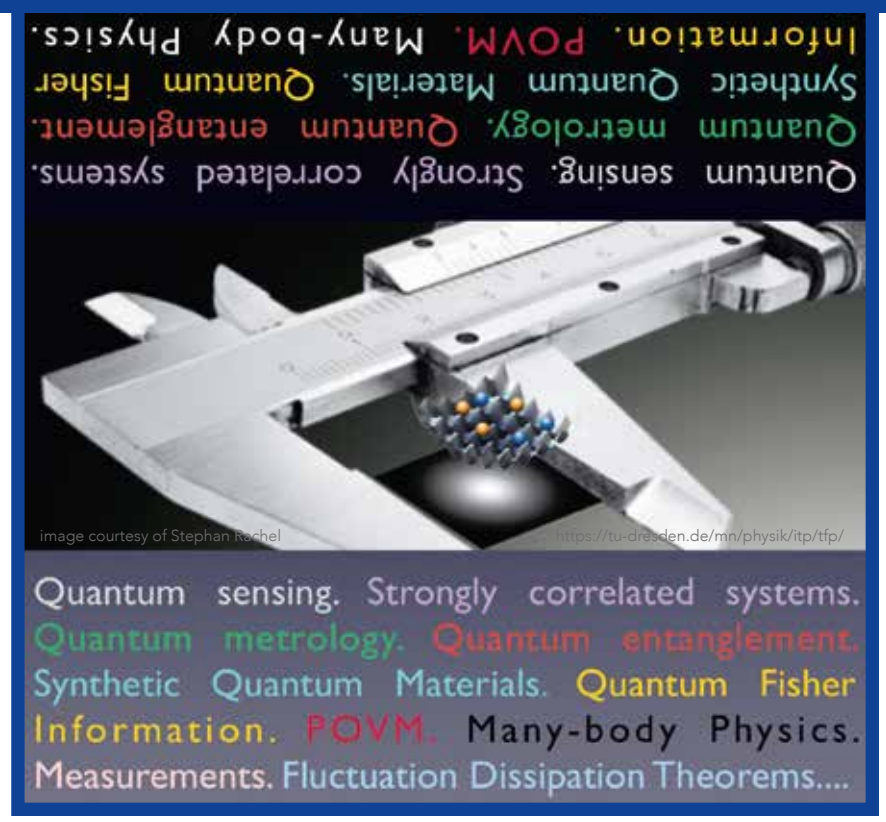
MAX-PLANCK-GESELLSCHAFT

Quantum Sensing with Quantum Correlated Systems

Max Planck Institute for the Physics of Complex Systems

International Workshop
25 - 29 September 2017

Quantum sensing, along with quantum metrology and quantum communications, is one of the pillars of the emerging new technologies in this century. In this workshop we aim at moving from the paradigm of using isolated single quantum systems as sensors to devices formed by many-body quantum correlated systems and "synthetic quantum materials" that exploit entanglement to achieve higher resolution in the determination of an unknown parameter.



Topics:

- Quantum Sensing
- Quantum Entanglement
- Quantum Information
- Synthetic Quantum Materials
- Ultracold Quantum Gases
- Strongly Correlated Systems
- Many-Body Physics
- Quantum Metrology
- Quantum Communication
- Quantum Enhanced Parameter Estimation
- Topological Systems

Invited speakers:
(* to be confirmed)

Blatt, Rainer (AT)
Bollinger, John (US)
Bose, Sugato (UK)
Budker, Dmitry (DE)
Calabrese, Pasquale (IT)
Calsamiglia, John (ES)
Casanova, Jorge (DE)
Devoret, Michel (US)
Essler, Fabian (UK)
Girvin*, Steve (US)
Gorshkov, Alexey (US)
Hartmann, Michael (UK)
Hauke, Philipp (DE)
Hazzard, Kaden (US)
Heyl, Markus (DE)
Hollenberg, Lloyd (AU)
Klempt, Carsten (DE)
Klich, Israel (US)
Le Hur, Karyn (FR)
Lewenstein, Maciej (ES)
Lukin*, Mikhail (US)
Morton, John J.L. (UK)
Plenio, Martin (DE)
Polzik, Eugene (DK)
Reichel, Jakob (FR)
Rey, Ana-Maria (US)
Schleier-Smith, Monika (US)
Schmiedmayer, Jörg (AT)
Sherson, Jacob (DK)
Smerzi, Augusto (IT)
Vuletic, Vladan (US)
Wrachtrup*, Jörg (DE)

Scientific coordinators:

Markus Oberthaler
Heidelberg, Germany

Stephan Rachel
Dresden, Germany

Anna Sanpera Trigueros
Barcelona, Spain

Organisation:

Claudia Domaschke
MPIPKS Dresden

Applications received before 30 June 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 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.

For further information please contact:
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We also offer individual fellowships (phd, postdoc, sabbatical). Applications are accepted continuously. For details, please check www.pks.mpg.de/visitors