

23.-27. September 2019

International Conference on Quantum Systems in Extreme Conditions 2019 (QSIEC2019)

The International Conference on Quantum Systems in Extreme Conditions 2019 takes place at the Kirchhoff-Institute for Physics, Im Neuenheimer Feld 227, 69120 Heidelberg from 23-27 September 2019. Call for Abstracts and Registration will be open soon.

24.-27. März 2019

1st Annual Retreat of the SFB 1225 Young Researchers` Convent (Kurhaus Trifels in Annweiler)

The main intention of our retreat is to provide a platform for cross-project collaboration on interesting topics and as well as the opportunity to intensify exchange and networking between young researchers within the SFB 1225 ISOQUANT. This year`s subject of the retreat will be “Machine Learning – Regression, Classification and Clustering”. Working sessions will be organized in groups, where you will have the time to learn about your chosen topic`s background, try out already existing implementations and connect what you learned with your own research area. On the last day, all groups present their results such that everybody also has the opportunity to learn about the basics of the other topics.

Registration is now open: <https://goo.gl/forms/eapP9f66NMmOmQ102>

28. September 2018

SFB 1225 ISOQUANT organisiert Science Slam im Rahmen der Nacht der Forschung in Heidelberg und Mannheim 2018

Ihr glaubt nicht, dass Wissenschaft unterhaltsam, überraschend und alles andere als staubig sein kann? Dann lasst Euch vom Gegenteil überzeugen! Philipp Schrögel war früher Physiker – jetzt aber arbeitet und forscht er in der Wissenschaftskommunikation. Viel wichtiger noch: er moderiert den Science Slam der Fakultät für Physik und Astronomie der Universität Heidelberg.

Fünf junge Wissenschaftler*innen stellen sich in einem kurzweiligen Wettstreit um die Gunst des wissbegierigen Publikums. Sie haben nur 10 Minuten Zeit das Publikum zu begeistern, dabei ist jedes Hilfsmittel erlaubt. Es darf gesungen und getanzt werden, Bild- und Videomaterial benutzt werden oder Live-Experimente vorgeführt werden. Am Ende entscheidet allein das Publikum über die Gewinnerin oder den Gewinner des Abends! Also seien Sie dabei, lassen Sie sich begeistern – denn Wissenschaft kann auch anders.

Der Science Slam bei der Nacht der Forschung Heidelberg I Mannheim 2018 findet von 22:30-00:00 Uhr im Hörsaal 1 des Kirchhoff-Institutes für Physik, Im Neuenheimer Feld 227 statt. Der Eintritt ist frei.

Link zur Veranstaltung: <https://www.nacht-der-forschung-heidelberg.de/event/science-slam/>

02.-05. Mai 2018

2nd ISOQUANT WORKSHOP

After our inaugural ISOQUANT Kick-Off Meeting in Obergurgl 19-24 February 2017, the 2nd SFB 1225 ISOQUANT Workshop aims at reviewing the current status of and ongoing research within the collaborative research centre as well as discussing future directions.

It is supposed to take place at the Institute for Theoretical Physics, Philosophenweg 12, 69120 Heidelberg from 02-05 May 2018.

Scientific Programme

In recent years we have witnessed a dramatic convergence of research on quantum systems in extreme conditions across traditional lines of specialization. Common aspects may be observed in diverse applications - ranging from table-top experiments with ultra-cold quantum gases to quark-gluon plasmas created in collisions of ultra-relativistic nuclei at giant laboratory facilities - even though the typical energy scales and microscopic degrees of freedom vastly differ. The workshop will bring together the different theoretical approaches and experimental techniques probing isolated quantum systems in extreme conditions.

Far from equilibrium dynamics and thermalisation in isolated quantum systems:

- Initial state and thermalisation dynamics in heavy-ion collisions: Berges, Reygers, Stachel
- From QCD transport to particle yields: Masciocchi, Pawlowski, Stachel
- Non-equilibrium dynamics and thermalisation in many-body quantum systems: Schmiedmayer
- Probing quantum phase transitions with quenches: Universality far from equilibrium: Gasenzer, Oberthaler
- Dynamics of quantum spin systems with long-range interactions: Weidemüller, Whitlock

Quantum systems with strong fields:

- Precision physics in strong field QED and limits on the time variation of fundamental constants: Blaum, Crespo, Wetterich
- Strong-field physics with nuclei and highly charged ions: Evers, Keitel, Palffy-Buß
- Quantum dynamics of strong gauge fields and condensates: Berges, Pawlowski
- Cold atom gauge theories: Berges, Oberthaler, Jendrzejewski

Phase structure, large fluctuations and quantum critical phenomena:

- Strongly correlated fermions: Jochim, Pawłowski, Wetterich
- From few to many: ultracold atoms in reduced dimensions: Enss, Jochim
- Fermi-Bose mixtures with large mass ratios: Enss, Salmhofer, Weidemüller
- Probing the QCD phase structure with heavy quarks: Braun-Munzinger, Stachel
- Flow and fluctuations in relativistic heavy ion collisions: Flörchinger, Masciocchi