

COST Action MP1209 “Thermodynamics in the Quantum Regime” Newsletter

Thursday 28th July 2016

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Turkey/Training school

We have with growing sadness followed the recent terrorist attacks in Turkey, the attempted coup and the current firing of Turkish university employees, teachers and other public service personal. These developments have raised a number of concerns for the training school, ranging from flight cancellations to the safety of the training school participants. On the basis of these concerns the management committee has now decided not to hold the planned training school in Turkey at this point in time.

The organisers have worked around the clock to find an alternative venue for the Training School. We are happy to announce that **the Training School will still go ahead at the same dates as planned, 19th-24th September 2016, but will be re-located from Turkey to Cambridge, UK.** There will be a videolink to Istanbul during the summer school for the Turkish participants who are not able to come to the UK on short notice.

Further information, can be found at: <http://ee.princeton.edu/research/tureci/summer-school>. (please note **REGISTRATION IS NOW OPEN**)

Forthcoming Events in Year 4

COSTMP1209 – 2nd Training School: Thermodynamics and non-equilibrium phenomena for quantum interfaces of light and matter.
19-24 September 2016, **Cambridge, UK**

This school organised by Mete Atature (Cambridge University) and Hakan Tureci (Princeton University).

Details can be found here: <http://ee.princeton.edu/research/tureci/summer-school>

Registration is NOW OPEN

There are 60 trainee places available for the school, with funding from the COST network and other sources available for ca 40 participants. Registration is **NOW OPEN** and places will fill quickly, so please do not delay if you are interested in attending. A non-reimbursable registration fee of €150 is requested upon registration. If payment is not possible, please still register explaining the exceptional circumstances in the comments box. The organizing committee will then assess your circumstances and decide if a registration fee waiver is possible.

COST funding will be available for a limited number of participants. Please acknowledge in the comments box upon registration if you would like to be considered for COST funding. COST reimbursement invites will be sent out in late August.

COSTMP1209 – 5th Quantum Thermodynamics Conference
13-17 March 2017, Oxford, UK.

This event will be organized by Felix Binder, Fabio Anza, Cormac Browne (University of Oxford) and Luis Correa, Pietro Liuzzo-Scorpo and Gerardo Adesso (University of Nottingham).

The webpage for this conference is in construction. Please save the date.

STSM Update

STSM call 13 has now closed and 4 applications have now been approved.

The next STSM call opens on the **16th August** and applications must be received by **30th August**. STSM applications are a competitive process so, if you are considering applying, please give yourself the best chance of success by ensuring your project description is as strong as possible.

Further details of this and future calls can be found on the website <http://blogs.exeter.ac.uk/qut/>

Brexit/ COST MP1209

The "Thermodynamics in the quantum regime" network is chaired by the UK and funded through the pan-European COST office grant MP1209.

http://www.cost.eu/COST_Actions/mpns/MP1209

Network participants may therefore wonder how the recent referendum vote of the UK to leave the EU impacts on the network operation. I am writing to confirm that there will be **no impact** of this vote on the operation of our COST network. I.e. the organisation of events, participation of researchers, and the reimbursement rules will continue in the same form as before.

<http://www.cost.eu/media/newsroom/Impact-of-UK-referendum-on-COST-programme>

It is clear that the academic community in the UK is strongly pro-EU, given the obvious benefits of scientific cooperation across borders. I would like to add that the referendum is a democratic vote by the British public that must be and is taken seriously by UK politicians. However, the time-scale of working out what a so-called

Brexit could practically look like and the start of implementing any changes is expected to be long-term. Until the UK leaves the EU the UK will continue to contribute to and be a full partner in Horizon2020 and other European research programmes.

Best wishes,
Janet

Website

The COST MP1209 website will be updated in the upcoming weeks. This will include the 'join us' page where we have been having difficulties. Please check regularly for further information. In the meantime, please send any queries to the Project Administrator, Sandra Howsley at costmp1209@gmail.com

Administrative Information

Please send any items for inclusion in the next newsletter to Sandra Howsley at costmp1209@gmail.com.

COST Acknowledged Publications

The following COST acknowledged publications have been notified to us since the last newsletter. Please send details of any new COST acknowledged publications to costmp1209@gmail.com.

1. Alicki, R. Unified Quantum Model of Work Generation in Thermoelectric Generators, Solar and Fuel Cells. *Entropy* **18**, 210 (2016).
2. Bruschi, D. E. & Fuentes, I. Thermodynamics of relativistic quantum fields: extracting energy from gravitational waves. [arXiv:1607.01291v2](https://arxiv.org/abs/1607.01291v2) [quant-ph] (2016).
3. Cifuentes, A. A., Nicacio, F., Paternostro, M. & Semião, F. L. Nonequilibrium properties of trapped ions under sudden application of a laser. *Phys. Rev. A* **94**, 013406 (2016)
4. Huber, F. & Gühne, O. Characterizing Ground and Thermal States of Few-Body Hamiltonians. *Phys. Rev. Lett.* **117**, 010403 (2016).
5. Mehboudi, M., Moreno-Cardoner, M., De Chiara, G. & Sanpera, A. Thermometry Precision in Strongly Correlated Ultracold Lattice Gases. *New J. Phys.* **17**, 055020 (2015).
6. Pigeon, S., Fusco, L., Xuereb, A., De Chiara, G. & Paternostro, M. Thermodynamics of trajectories and local fluctuation theorems for harmonic quantum networks. *New J. Phys.* **18**:013009 (2016).

7. Pigeon, S. & Xuereb, A. Thermodynamics of trajectories of open quantum systems, step by step. *J. Stat. Mech.* 063203 (2016)
8. Vinjanampathy, S. & Anders, J. Quantum thermodynamics. *Contemp. Phys.* (2016). Published online doi:10.1080/00107514.2016.1201896