

COST Action MP1209 "Thermodynamics in the Quantum Regime" Newsletter  
Friday April 17<sup>th</sup> 2015

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## Forthcoming Events

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**COSTMP1209 – The Second Quantum Thermodynamics Conference** is being organised by Roberta Zambrini and will be held from 19-24 April 2015 in Palma de Mallorca, Spain, hosted by the Institute of Cross-Disciplinary Physics and Complex Systems [IFISC](#), a joint research Institute of the University of Balearic Islands [UIB](#) and the Spanish National Research Council [CSIC](#).

The meeting website is - <http://ifisc.uib-csic.es/qtd2/>

The 2nd Quantum Thermodynamics Conference is meant to be a reference for researchers working in thermodynamics in the quantum regime, in connection with quantum information theory and statistical physics. Two keynote (Martin Plenio and Peter Talkner), several invited and contributed talks as well as a poster section are scheduled, promoting young scientists. The conference also includes discussion time and Working Group meetings.

**Workshop on Thermodynamics and Nonlinear Dynamics in the Information Age**  
13-17 July 2015, Telluride, USA

<https://www.telluridescience.org/meetings/workshop-details?wid=548>

**COSTMP1209 – Third Quantum Thermodynamics Conference "Quantum Thermodynamics, Quantum Information"** is being organised by a group of CNRS researchers - Alexia Auffeves (Institute Néel, Grenoble), Maxime Clusel (Laboratoire Charles Coulomb, Montpellier), Benjamin Huard (LPA, Ecole Normale Supérieure, Paris), Sébastien Tanzilli (Nice University) and Robert Whitney (LPMMC, Grenoble). It will be held from 11-16 October 2015 in Porquerolles, France.

The meeting website is <http://q-thermo3.sciencesconf.org/>. Registration is due to open in May.

The 3rd Quantum Thermodynamics Conference is intended to gather experts in the fields of quantum thermodynamics and quantum information, both theorists and experimentalists. The goal of the event is to foster crossed fertilization between the different communities. Potential experiments in the field will be particularly considered, building on the wide range of devices able to process quantum information, whose recent developments have been spectacular.

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### **STSM Call 8 – Update**

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4 STSMs have been awarded as a result of Call 8 with projects being undertaken in Italy, UK, Spain & Finland.

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### **Job Vacancies**

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I am sorry to let you know that Marion will *not* continue to be our Project Administrator beyond the end of May 2015.

Marion has done a tremendous job at supporting our network, communicating with everybody and helping organise our events, without which we simply would not have been able to operate. I would like to thank Marion for her fantastic work and engagement, and wish her all the best for her next steps.

The network Project Administrator position is now being advertised - [https://jobs.exeter.ac.uk/hrpr\\_webrecruitment/wrd/run/ETREC107GF.open?VACANCY\\_ID=457904CAuc&WVID=3817591jNg&LANG=USA](https://jobs.exeter.ac.uk/hrpr_webrecruitment/wrd/run/ETREC107GF.open?VACANCY_ID=457904CAuc&WVID=3817591jNg&LANG=USA)

The application closing date is *28th April 2015*. Please inform those who may be interested in the position.

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### **New Members**

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8 new members have joined the network since the last newsletter.

In addition, the Czech Republic has now joined the Action.

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### **Administrative Information**

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Please send any items for inclusion in the next newsletter to [costmp1209@gmail.com](mailto:costmp1209@gmail.com).

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### **COST Acknowledged Publications**

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Please send details of any new COST acknowledged publications to [costmp1209@gmail.com](mailto:costmp1209@gmail.com).

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](mailto:costmp1209@gmail.com).

1. Altintas, F., Hardal, A. Ü. C. & Müstecaplıoğlu, Ö. E. Rabi model as a quantum coherent heat engine: From quantum biology to superconducting circuits. *Phys. Rev. A* **91**, 023816 (2015).

2. Lostaglio, M., Jennings, D. & Rudolph, T. Description of quantum coherence in thermodynamic processes requires constraints beyond free energy. *Nat. Commun.* **6**, 6383 (2015).
3. Plastina, F. *et al.* Irreversible Work and Inner Friction in Quantum Thermodynamic Processes. *Phys. Rev. Lett.* **113**, 260601 (2014).