

COST Action MP1209 "Thermodynamics in the Quantum Regime" Newsletter  
Friday May 8<sup>th</sup> 2015

\*\*\*\*\*

## Contents

\*\*\*\*\*

- Second Quantum Thermodynamic Conference
- Forthcoming Events
- Website
- Administrative Information
- COST Acknowledged Publications

\*\*\*\*\*

## Second Quantum Thermodynamics Conference

\*\*\*\*\*

### **COSTMP1209 – The Second Quantum Thermodynamics Conference -**

<http://ifisc.uib-csic.es/qt2/> was held between 19-24 April 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](#).

This conference was extremely successful with many participants, much useful discussion and interesting, engaging presentations.

We would like to thank Roberta Zambrini and her team for all their hard work in ensuring the conference was so successful.

\*\*\*\*\*

## Forthcoming Events

\*\*\*\*\*

### **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 now open.**

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.

\*\*\*\*\*

## Website

\*\*\*\*\*

Our website has now been slightly updated & moved to be hosted by the University of Exeter. The new url is <http://blogs.exeter.ac.uk/qut/>.

If you should go to the old url then you should be automatically redirected to the new site.

\*\*\*\*\*

## Administrative Information

\*\*\*\*\*

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

1. Binder, F., Vinjanampathy, S., Modi, K. & Goold, J. Quantum thermodynamics of general quantum processes. *Phys. Rev. E* **91**, 032119 (2015).
2. Chiara, G. De, Roncaglia, A. J. & Paz, J. P. Measuring work and heat in ultracold quantum gases. *New J. Phys.* **17**, 035004 (2015).
3. Faist, P., Oppenheim, J. & Renner, R. Gibbs-preserving maps outperform thermal operations in the quantum regime. *New J. Phys.* **17**, 043003 (2015).
4. Lostaglio, M., Korzekwa, K., Jennings, D. & Rudolph, T. Quantum Coherence, Time-Translation Symmetry, and Thermodynamics. *Phys. Rev. X* **5**, 021001 (2015).
5. Parrondo, J. M. R., Horowitz, J. M. & Sagawa, T. Thermodynamics of information. *Nat. Phys.* **11**, 131–139 (2015).
6. Sánchez, R., Sothmann, B. & Jordan, A. N. Chiral Thermoelectrics with Quantum Hall Edge States. *Phys. Rev. Lett.* **114**, 146801 (2015).
7. Sothmann, B., Sánchez, R. & Jordan, A. N. Thermoelectric energy harvesting with quantum dots. *Nanotechnology* **26**, 032001 (2015).
8. Sothmann, B., Sánchez, R. & Jordan, A. N. Quantum Nernst engines. *EPL (Europhysics Lett.)* **107**, 47003 (2014).