



The 13th International Conference on Micro- and Nano-Technology
for Power Generation and Energy Conversion Applications

Conference Proceedings



London
3rd – 6th December 2013



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The 13th International Conference on Micro- and Nano-Technology for Power Generation and Energy Conversion Applications

Conference Co-Chairs:

Stephen Beeby, University of Southampton, UK
Paul Mitcheson, Imperial College London, UK

Technical Program Committee Co-Chairs:

Eric Yeatman, Imperial College London, UK
Douglas Paul, University of Glasgow, UK

PowerMEMS School Co-Chairs:

Einar Halvorsen, Vestfold University College, Norway
Shad Roundy, University of Utah, USA

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WELCOME TO POWERMEMS 2013

It is a pleasure to welcome you to The Royal Society in London and the 13th International Conference on Micro- and Nano-Technology for Power Generation and Energy Conversion Applications, or PowerMEMS 2013.

The objective of PowerMEMS 2013 is to catalyse innovation in miniature, micro- and nano-scale technologies for power generation and energy conversion. The conference aims to stimulate the exchange of insights and information, and the development of new ideas in the Power MEMS/NEMS field as well as at the meso-scale. It will allow the attendees to interact and network within our multidisciplinary community that includes professionals from many branches of science and engineering.

The technical program is led by four invited speakers covering inductive power transfer, chip scale power sources, thermal energy harvesting and implantable biofuel cells. We received 177 abstracts and following a careful reviewing process by the Technical Program Committee a total of 137 papers were selected for presentation. These have been organised into 16 Oral sessions in two parallel streams and two poster sessions that have been augmented by 10 late news papers. The oral and regular poster papers are, for the first time, being published by the Institute of Physics.

We have made every effort to make PowerMEMS 2013 the busiest yet and have included for the first time the PowerMEMS School. This two-day school held at Imperial College London covered a wide range of power-MEMS topics including technologies for power generation, power transmission, energy storage, power electronics interfaces and metrology. Registrations for the School exceeded our expectations and it was full by early November. We hope this, and other activities such as the Discussion Panel and the inclusion of late news papers, will make PowerMEMS 2013 a memorable success. We have also reached out to new communities, such as those working in wireless power transfer and RF harvesting to broaden the technology remit of our conference.

The social program is an important aspect of any conference and the PowerMEMS 2013 banquet will be held in the Science Museum. This provides a fantastic opportunity to network whilst viewing some of the fundamental engineering innovations that have ultimately brought us all here today.

There is a long list of individuals we would like to thank for their support in organising PowerMEMS 2013. Once again the TPC, chaired by Eric Yeatman and Douglas Paul, have given us their valuable time and effort in reviewing abstracts. The PowerMEMS School chairs Einar Halvorsen and Shad Roundy and the expert speakers made the School possible. The local organising committee, led by Alwyn Elliott, have provided us with invaluable assistance in making PowerMEMS 2013 happen. The financial support from Imperial College London, the University of Southampton and conference sponsors has also been gratefully appreciated. Finally, we would like to thank you all for attending and helping in making PowerMEMS 2013 a success. We wish you a productive and enjoyable conference and a wonderful stay in London.

Sincerely



Paul Mitcheson



Steve Beeby

CONFERENCE OFFICIALS

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Paul Mitcheson, *Imperial College London, UK*

Technical Program Committee Co-Chairs

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