



Preface of the “Symposium on processes and systems for efficient clean energy generation, utilisation and thermal management”

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Preface of the “Symposium on Processes and Systems for Efficient Clean Energy Generation, Utilisation and Thermal Management”

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Developments in the Energy sector are now of central interest to Government, industry, the academic community and the wider public. Symposium 9, titled “Processes and Systems for Efficient Clean Energy Generation, Utilisation and Thermal Management”, provided an opportunity for scientists and engineers to present recent advances and to discuss current problems, future needs and prospects in the areas of energy generation, distribution, storage, conversion and utilisation, as well as thermal management.

Emphasis was placed on the application of computational methods to the development, analysis and optimisation of relevant processes and systems; and the design, management and assessment of energy-related programmes and schemes for increased efficiency, reduced consumption and lower emissions.

Specific topics of interest included:

- Advanced power generation, refrigeration and energy storage systems
- Renewable energy (e.g. geothermal, solar, wind, tidal) and waste heat utilisation
- Energy planning, energy systems optimisation and hybrid/integrated systems
- Urban flows and thermal management (e.g. in buildings)
- Clean combustion and carbon capture and storage technologies

From the topics presented and discussed at the symposium, eight were selected for publication as short papers in a special issue of the AIP.

Christos N. Markides



Christos N. Markides is a Senior Lecturer in Clean Energy Processes and heads the Clean Energy Processes (CEP) research group at the Department of Chemical Engineering and the cross-faculty Energy Efficiency Network at Imperial College London. He was awarded a First Class BA degree with Honours, an MEng with Distinction, an MA, and a finally a PhD in Energy Technologies in 2006, all from the University of Cambridge. His current research interests focus primarily on the application of fundamental principles of thermodynamics, fluid mechanics, and heat and mass transport to innovative, high-performance heat exchange systems, renewable energy technologies and thermodynamic systems for energy (heat and power) conversion, integration and storage, with emphasis on the efficient utilisation of low-grade (solar or waste) heat. He also has an on-going interest in advanced diagnostics as applied to turbulence, reacting flows and combustion for power generation with improved efficiency and reduced emissions. He acted as Organizer of Symposium 9, “Processes and Systems for Efficient Clean Energy Generation, Utilisation and Thermal Management” at the 8th International Conference of Computational Methods in Sciences and Engineering (ICCMSE 2010).

Utilisation and Thermal Management” at the 8th International Conference of Computational Methods in Sciences and Engineering (ICCMSE 2010).