



19-23 April 2010 in Barcelona, Spain

A New Forum for Energy Research

The world community, and not least Europe, is confronted with converging crises, economic, environmental, employment and social. Energy – its availability at acceptable economic and environmental cost, and with the prospect of sustainability – is a key factor in confronting these crises. Given these circumstances, four leading European scientific organisations are committed to a synergetic engagement to evaluate and promote European research and technology competence in the energy field. Fundamental research of course must be structured for application, so that through engineering practice it can fulfil the requirements of society. The first European Energy Conference will not be an isolated event; it launches an ongoing forum of Communication and cooperation promoting energy-related research.

Objective of the Conference

The European Science Foundation, the European Association for Chemical and Molecular Sciences, the European Materials Research Society and the European Physical Society share the conviction that fundamental scientific aspects of energy research and development will be substantially more efficient, with faster progress and a promotion of understanding through an interaction of their specialist disciplines, chemistry, material sciences and physics. The European scientific community has the potential to optimise interdisciplinary cooperation and communication in energy research. Therefore this newly launched European Energy Conference series will promote, consolidate and communicate this vitally necessary synergy.

Although focused on energy research and technology, this conference series fully recognises the political, economic, social and environmental aspects of energy supply and consumption. Sustainable development is ultimately a social and community imperative, which can only be accomplished within this larger context.

Topics

The Conference will cover chemistry, physics and material sciences related to energy technologies. In addition to plenary keynote presentations on diverse energy themes, parallel sessions will deal with energy sources, storage and conversion of energy and end-use including energy conservation.



Information and registration:
www.e2c-2010.org ■ info@e2c-2010.org



Scientific Programme

Invited Speakers will include (list to be completed):

- **Carlos Alejandre**, Directorate, ITER, ES - *ITER: promise and problems*
- **Nicola Armaroli**, Consiglio Nazionale delle Ricerche, IT - *The ultimate in lighting: LEDs and others*
- **Vincenzo Balzani**, University of Bologna, IT - *Artificial photosynthesis*
- **Ronnie Belmans**, Katholieke Universiteit Leuven, BE - *Smart Grids: efficient electricity generation and distribution*
- **Harald Bolt**, FZJ, DE - *Materials for extreme conditions*
- **Jean-François Dallemand**, JRC, Ispra, IT - *Sustainable biofuels*
- **Gia Destouni**, Stockholm University, SE - *Water & energy/environmental limitations*
- **Waclaw Gudowski**, International Science & Technology Centre, RU - *Next generation fission reactors*
- **Gerhard Hörpel**, Westfälische-Wilhelms-Universität, DE - *Putting traction batteries on the road*
- **David King**, Oxford University, UK - *High level challenges*
- **Rolf Linkohr**, Centre for European Energy Strategy, BE - *Evaluation of the Conference*
- **Martha Lux Steiner**, Helmholtz Centre, Berlin, DE - *Advanced compound semiconductors*
- **Ravindranathan Thampi**, University College Dublin, IE - *Catalysis for fuel processing*

Afternoon sessions will cover the following topics:

SESSION A - Primary Energy Sources → Solar and environmental: photovoltaics and photo-chemistry, wind, tide and wave, geothermal, hydro, biofuels ▪ **Winfried Hoffman**, Applied Materials Inc., DE → Fuels from earth and ocean: fossil (including non-conventional - clathrates, shales, tar sands), marine technology, geophysics, corrosion ▪ **Kjell Aleklett**, Uppsala University, SE → Fission and fusion: materials, instrumentation and control, associated technologies including cryogenics, modeling

SESSION B - Energy Conversion and Storage → Electrochemistry for energy: batteries, supercapacitors, fuel cells, electrolysis, electrolytes catalysts and materials for electrochemistry → Thermodynamics and thermal processes, thermal energy storage, thermoelectrics, high temperature materials, catalysts & refractories, petrochemistry for electrochemistry → Supporting technologies: energy vectors - electrical and chemical, materials and systems for energy distribution, super-conductors, sensors, smart grids ▪

Harry Frank, Royal Swedish Academy of Sciences, SE

SESSION C - End Use of Energy → The efficient home: architecture, comfort control, heating and cooling, energy management, domestic cogeneration → Transport: "car of the future", "flight of the future", marine (including nuclear), public transport - rail/innovative → Demand & environmental management/disposal of wastes-radioactive, toxic, CO₂, energy-intensive industries - metallurgy, ceramics, glass, cement ▪ **Sigmar Brauninger**, BASF, DE

Opening ceremony by Spanish EU Presidency, Tuesday 20 April, 9.00 am.

Call for Abstracts

The scientific committee welcomes original contributions on the following topics:

- **Primary Energy** - sources: solar and environmental, fuels and earth and ocean, fission and fusion
- **Energy Conversion and Storage** - electrochemistry for energy, thermodynamics and thermal processes, supporting technologies
- **End Use of Energy** - the efficient home, transport, demand and environmental management
- **Emerging Topics** - for highly-relevant topics not covered by the sessions above

Abstracts must be submitted online **by 15 November 2009**. Any submissions made after this date or in any other format will not be processed. Authors may submit up to 3 abstracts; a new form must be filled for each abstract.



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