



Institution of
**MECHANICAL
ENGINEERS**

16th INTERNATIONAL CONFERENCE ON THE PROPERTIES OF WATER AND STEAM

**WATER, STEAM AND AQUEOUS SOLUTIONS:
WORKING FOR THE ENVIRONMENT AND INDUSTRY**

Call for Papers

1-5 September 2013
University of Greenwich, UK

www.icpws16.org



Organised on behalf of the International Association for the Properties of Water and Steam (IAPWS) by the British & Irish Association for the Properties of Water and Steam (BIAPWS) and the Institution of Mechanical Engineers (IMechE).

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ABOUT THE CONFERENCE

The 16th International Conferences on the Properties of Water and Steam (ICPWS16) is the continuation of the sequence of international conferences, which started in 1929.

The conference provides a forum for the presentation of the scientific foundation of the accurate thermophysical properties and water chemistry data used by the thermal power industry. It also covers new areas of pure and applied research related to water and aqueous solutions at extreme conditions, along with sea water and humid gases.

Relevant areas of basic science include spectroscopy, calorimetry, potentiometry, thermo-physical property measurements and modelling. Molecular simulation studies of water and solvated species in high-temperature and sub-cooled water are also covered.

Areas of application include power cycle chemistry; high-temperature aqueous technologies applicable to steam cycles and fuel cells; the use of high-temperature water and supercritical steam in chemical and metallurgical processes; supercritical synthesis of new materials and destruction of toxic wastes; hydrothermal geochemistry; hydrometallurgy; oceanography; power cycles with carbon dioxide capture and storage of carbon dioxide in aqueous environments.

SCIENTIFIC PROGRAMME

The scientific programme is organised by an International Programme Committee selected by IAPWS, with representatives from a cross-section of member countries, spanning industry, universities and national laboratories.

The technical programme consists of plenary lectures, workshops and symposia addressing a number of major topics.

Papers are sought on the following topics:

- Calculation of water and steam properties for industrial applications
- Thermodynamic and transport properties of aqueous systems
- Molecular simulation and spectroscopy in aqueous systems
- Critical and metastable states, including supercooled liquid
- Thermodynamics and kinetics in hydrothermal systems
- Electrochemistry and corrosion in high temperature water
- Apparatus, materials and monitoring instrumentation for applications at high temperatures and pressures
- Power cycle chemistry in plant with fossil and renewable energy sources
- Design and power cycle chemistry in plant with nuclear energy sources. considerations for safety, in existing plant, new build and research reactors
- Water purification and associated chemistry for power plant and other applications
- Thermophysical properties for carbon capture and storage
- Hydrothermal geochemistry
- Supercritical water for advanced materials synthesis, waste treatment etc
- The atmosphere and the oceans, thermophysical properties of air and sea water for global climatic and oceanographic modeling and desalination and general topics on water, steam and aqueous systems

Information on session organisers and plenary lectures will be found online at **www.icpws16.org** from mid-October.

WORKSHOPS: THE ATMOSPHERE AND THE OCEANS

In addition to the conference sessions, three workshops are scheduled on definitions of:

- i) Seawater salinity
- ii) Seawater pH
- iii) Relative humidity

These workshops are designed to aid the process of establishing internationally agreed definitions of these quantities and enabling measurement results to be traceable to the SI.

The workshops are planned for Monday 2 September (afternoon) and Tuesday 3 September (morning and afternoon) and will involve participants from BIPM, IAPWS, SCOR/IAPSO and WMO. Contributions from other individuals with interests in these topics will be welcomed.

Incorporated within the programme will be a one-day event on power cycle chemistry run in parallel to the main programme.

VENUE AND LOCATION

The conference will be held in London at the University of Greenwich, centre of the Maritime Greenwich UNESCO World Heritage Site.

University of Greenwich
Old Royal Naval College
Park Row
Greenwich
London
SE10 9LS
United Kingdom
Website: www.gre.ac.uk/greenwich



Shepherd Gate
Clock at the Royal
Observatory
Greenwich

The University is easily accessible by public transport and centrally located to reach the numerous points of interest in London that attract many visitors from all over the world.

Further local information can be found at www.visitgreenwich.org.uk

ACCOMMODATION

A limited number of rooms are being held at the University of Greenwich student halls of residence by The Corporate Team. Special rates have also been arranged for conference delegates at recommended hotels in the local area.

Booking details will be available soon at: www.icpws16.org

SUBMISSION OF ABSTRACTS

If you work in this field and think others may be interested in your way of working or the technology being developed, why not share your knowledge and expertise by producing and presenting a paper? The first step is to produce an abstract of your proposed paper. This needs to outline what you will talk about, in no more than 500 words. Your abstract should be written in English and include your name, paper title and affiliations.

The deadline for abstract submission is 1 November 2012.

Details of how to submit your paper can be found at www.icpws16.org or by contacting icpws16@imeche.org

The Organising Committee will select authors and invite them to submit a draft paper of up to 4,000 words.

The deadline for draft papers is 28 February 2013.

CONFERENCE PROCEEDINGS

All accepted papers will be published on a CD-ROM/USB stick as refereed proceedings, which will be available to all delegates attending the conference.

LANGUAGE

The language of the conference is English. Written papers and oral presentations should be in English.

The committee will consider all draft papers submitted and all papers will be refereed by two independent reviewers; All conference papers should be written and presented in English. Authors are required to attend the conference to present their work. Presenting authors enjoy a substantial reduction in the registration fee. However the Institution will not be able to reimburse any travel or accommodation expenses.

We encourage authors to submit their work to Proceedings of the IMechE, Part D: Journal of Power & Energy, which can be accessed from <http://journals.pepublishing.com> Work submitted to the Journals will undergo full peer-review and needs to be an extension of the paper submitted to the conference and be original and innovative.

STUDENT AWARDS

All papers submitted by students qualify for the BIAPWS 'Invited Student' Awards. Five of these awards will be given to the most outstanding contributions by students. The final decision will be made by the International Programme Committee and the Local Executive Committee. The award winners will be granted complimentary conference registration (student category) and an honorarium of £500. For details please refer to www.icpws16.org

The IMechE may also nominate papers presented at the conference and considered by the Organising Committee to be of special merit for appropriate awards.

Further information on IMechE Scholarships and Awards can be found at: www.imeche.org/awards

IMPORTANT DATES

Authors are strictly requested to follow the schedule detailed below:

Deadline for abstract submission (500 words)	1 November 2012
Notification of acceptance:	1 December 2012
Deadline for full length paper submission:	28 February 2013
Notification of acceptance:	3 May 2013
Deadline for submission of final paper:	3 June 2013

Abstract submission is now open. Details can be found at: www.icpws16.org

PROMOTIONAL OPPORTUNITIES: EXHIBITION AND SPONSORSHIP

This international conference provides you with an opportunity to highlight your organisation's solutions, products and services. Exhibiting at and/or sponsoring ICPWS16 offers excellent value for promoting your expertise to experts from industry and academic research backgrounds.

On-site, sponsors enjoy networking functions, exhibition and demonstration opportunities. A number of IMechE sponsors also opt for a prime position by selecting one of our premium packages, providing serious players with the opportunity to combine branding and networking in one package.

If you are interested in taking up a space at the ICPWS16 exhibition or would like to discuss other sponsorship opportunities please contact Aman Duggal on +44 (0) 20 7973 1309 or email:

sponsorship@imeche.org

Conference Enquiries

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Local Organising Committee

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Peter Calver, IMechE (Siemens Energy, UK)
Jeff Cooper, BIAPWS (University of London, UK)
Hugh Lloyd, BIAPWS (ABB Measurement Products UK)
Paul McCann, BIAPWS (E.ON New Build & Technology, UK)
Corhyn Parr, IMechE (Babcock International Group, UK)

International Programme Committee

Jeff Cooper (Chair, Queen Mary University of London, UK)
Barry Dooley (Executive Secretary of IAPWS; Structural Integrity Associates, USA)
Rainer Feistel (Chair of SCSW of IAPWS; Baltic Sea Research Institute, Germany)
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Michael Rziha (Chair of WG PCC of IAPWS; Siemens Power Generation, Germany)
Roland Span (Member of WG TPWS of IAPWS; Ruhr-University Bochum, Germany)
Ingo Weber (Chair of WG IRS of IAPWS; Siemens Power Generation, Germany)