

**AGENDA for the EXECUTIVE COMMITTEE
IAPWS**

DENMARK. 24-30 AUGUST 2003

Monday, 25 August 2003. Opening Session (8:30-10:00am)

- Opening Remarks and Welcome
- 1. Adoption of Agenda
- 2. IAPWS Business and Appointment of Committees
 - 2.1 Press Release
 - 2.2 Evaluation Committee on International Collaboration
 - 2.3 IAPWS Helmholtz Award Committee
 - 2.4 IAPWS Gibbs Award (2002 Minutes. Minute 15.3)
 - 2.5 IAPWS Atlas (Update by Palmer)
 - 2.6 IAPWS on the Internet.
 - 2.7 IAPWS Members and e-mail addresses
 - 2.8 IAPWS Structure (2002 Minutes. Minute 17.4)
 - 2.9 IAPWS Products (2002 Minutes. Minute 17.5)
 - 2.10 Other business requiring special/extensive discussions
- 3. EC Mandate to Working Groups and Membership
 - 3.1 Releases, Guidelines and Certified Research Needs (New and Expiring)
 - 3.2 14th ICPWS in Kyoto, Japan
 - 3.3 WG Directions
 - 3.4 Reports to EC
- 4. Preview by WG Chairpersons of Week's Activities

Thursday, 28 August 2003. Special Joint WG Session (1:30 –3:00pm)

- 5. Special Joint WG Session
 - 5.1 Structure of IAPWS
 - 5.2 14th ICPWS

Friday, 29 August 2003. Executive Meeting. (9:00am - 4:00pm)

- 6. Acceptance of Minutes of Previous Meeting
- 7. President's Report
- 8. Report and Recommendations of TPWS
- 9. Report and Recommendations of IRS
- 10. Report and Recommendations of PCAS
- 11. Report and Recommendations of PCC
- 12. Editorial Committee Report
- 13. Membership and Associates
 - 13.1 Report on Membership (Including Members Defaulting on Dues)
- 14. Executive Secretary's Report
 - 14.1 Financial, Auditors and Dues
 - 14.2 Time and Place of 2005 Meeting
- 15. Guidelines, Releases, Certified Research Needs and International Collaborations
- 16. IAPWS Awards (Gibbs, Helmholtz, and Honorary Fellowship)
- 17. New Business
 - 17.1 Planning Details of 14th ICPWS
 - 17.2 IAPWS Website
 - 17.3 IAPWS Restructuring
 - 17.4 Press Release
- 18. Adjournment

Committee on the Structure of IAPWS
Levelt Sengers, chair, Cooper, Marsik, Svoboda
Denmark, Aug. 28, 2003
Report to Plenary Session/EC

The Committee for the Structure of IAPWS proposes the formation of four committees and five task groups. The committees will work for a year, and report at Kyoto, after which they are disbanded. They require an EC vote. The task groups will report at Kyoto, and may continue as seen fit. Names marked by * indicate individuals who have been contacted and have agreed to serve or act.

COMMITTEES

NUCLEAR POWER SYSTEMS

Mandate: update IAPWS on developments in various countries, and delineate tasks for IAPWS.

Proposed Chair: Uchida*

Members: Svoboda*, Palmer*.

Mayer* will try to find contact at CEA/Framatom

Levelt Sengers* will find names of co-opted experts at EPRI, NEEL Idaho

and

Canada

Svoboda* will find contacts in Argentina/Brazil and EDF.

Cooper* will ask Andy Rudge (BIAPWS) as co-opted expert.

PCC* will provide contact names.

FUEL CELLS AND HYDROGEN TECHNOLOGY

Mandate: update IAPWS on ongoing research, advise on problems IAPWS could work on, and on whether a task group should be formed.

Proposed chair: Serguei Lvov*

Members: Rukes, co-opted experts from Siemens-Westinghouse/Pittsburgh, DOE, Weber* will recommend contact at Siemens-Westinghouse, Parry* will recommend contact at GE.

Wagner will contact Rukes.

EFFECTIVENESS OF ICRNs

Mandate: assemble the statistics and analyze the fate of past ICRNs: their success rate in generating proposals, obtaining funding, and solving the problem at hand.

Attachment 2

Proposed chair: Jim Bellows*

Members: Zeijseink*, Daucik*, Wagner*, Palmer*, Parry*, Friend*

Awards

Mandates:

A. Advise EC on

(1) Forms of IAPWS recognition of companies' support of IAPWS activities.

(2) Desirability of formal written appointment by IAPWS President of WG chairs

(3) Letter of appreciation at termination.

(4) Desirability of new IAPWS Award for excellent leadership of WG.

B. Work with Editorial Committee on proper definition and conditions of IAPWS

Awards in Bylaws, in time for vote at Kyoto meeting.

Proposed chair: Jeff Cooper*

Members: Bellows*, Bignold, Olavessen*, Rukes

Wagner will contact Rukes

Cooper will contact Bignold.

TASK GROUPS

The task groups should be formed and start their work as soon as possible. They should be operational, and report, by the time of the Kyoto meeting. Again, the chairs should have the discretion to select further members and co-opted experts.

PROPERTIES AND FORMULATIONS FOR HIGH-TEMPERATURE AQUEOUS SYSTEMS

Task: expand the existing PCAS task group by formulating a comprehensive program encompassing PCAS, TPWS and PCC expertise in this field.

Proposed chair: Vladimir Mayer*

Members: Harvey*, Jensen*

Mayer* will contact Fernandez-Prini, Plyasunov, Anderko.

Marsik* will contact Sedlbauer.

ELECTROCHEMICAL PROCESSES IN HIGH-TEMPERATURE AQUEOUS SYSTEMS

Task: Formulate a research program for IAPWS. Augment existing expertise by attracting co-opted experts and new members

Proposed Chair: Serguei Lvov*

Members: Petrova*, Eric Maughan*, Nakahara*, Uchida*, and a research associate of Digby Macdonald, Lvov* will ask Macdonald for the associate.

Education and Outreach

Task: Define educational and outreach projects IAPWS should engage in. Work with national committees active in this area. Attract volunteers. Explore possibilities of obtaining funding.

Proposed chair: Corti

Members: Assael*, Harris*, Nagashima, Olavessen, a member from Canada Natl. Committee.

Consultant: Harvey*

Levelt Sengers* contacts Corti. Backup: Assael*. Levelt Sengers contacts Canadian national committee.

ENVIRONMENTAL ISSUES

Task: Deal with environmental consequences of electric power generation, including use of new fuels, and methods proposed for their mitigation, including SCWO. Define areas to which IAPWS can contribute, and pinpoint sources of funding.

Proposed chair: Ochita*

First-level subcommittee members: Ochita*, Parry*, Weber*, Zeijseink*

Additional, full committee: Nakahara*, Assael*, Olavessen* (with company support)
Kretschmar* will ask Spann; Levelt Sengers* will solicit Argentina/Brazil rep.

METASTABILITY, NUCLEATION, EARLY CONDENSATE, DROPLET SPRAYS, CAVITATION

Task: Define and attract expertise needed, define problems to work on.

Proposed chair: Marsik*

Members: Bellows*, Stastny*

Levelt Sengers* contacts Anisimov

Marsik* contacts young engineer at hydropumps company, Guenter Schnerr, Karlsruhe, Rini van Dongen, Eindhoven, Christopher Brenner, Cal. Tech.

Zeijseink will contact Cees van Geld, Eindhoven.

Symposium, Wednesday 27 August 2003
Aqueous Thermodynamics in Power Generation

Morning Session

Helmholtz Award and Danish Research and Development

Chairperson: Karol Daucik, Elsam, Denmark

- 09:00 Presentation of the Helmholtz Award by the president of IAPWS
- 09:05 E. Luijten
New Techniques for the Determination of Phase Properties of Aqueous Systems via
Computer Simulations
- 09:50 S.Hansen
Process Design and Optimisation of the Avedøre2 Multi Fuel Power Plant
- 10:20 Coffee break
- 10:50 R. Blum
Development of 700° Ultrasupercritical Fossil Power Plant
- 11:20 A. García
Scaling in Geothermal Units
- 11:50 K. Thomsen
Utilization of Bio-ash
- 12:30 Lunch

Afternoon session

The Physical and Chemical Properties of Aqueous Systems at Elevated Temperatures and Pressures: Water, Steam and Hydrothermal Solutions

Chairperson: Dr. Jørgen Peter Jensen, Energi E2, Denmark

- 14:00 J.M.H. Levelt Sengers
Near-Critical Behaviour of Aqueous Systems
- 14:30 A.H. Harvey
Aqueous Solubility of Volatile Nonelectrolytes
- 15:00 Coffee break
- 15:30 F. Marsik
Binary Homogeneous Nucleation in Selected Aqueous Solutions
- 16:00 D.A. Palmer
Partitioning of Electrolytes to Steam and Their Solubility in Superheated Steam
- 16:30 V. Valyashko
Phase Equilibria in Binary and Ternary Water-salt Systems
under Sub- and Supercritical Conditions

Schedule
IAPWS Meetings
Vejle, Denmark. 24-30 August 2003
 (All meetings will be at Hotel Australia, Vejle, Denmark)

- Sunday 24 August. 3:00-5:00pm International Program Committee for the 14th ICPWS
 6:00pm Informal Get-together and Registration
 (Hosted by Danish National Committee)
- Monday 25 August. 8:30am. Opening Plenary Session - Executive Committee
 10:00am TPWS/IRS Joint Meeting
 (To set agendas for the week and to conduct IAPWS Business, thus allowing remainder of week for technical matters)
 10:00am. PCAS and PCC Separate Meetings
 (To conduct IAPWS Business, thus allowing remainder of week for technical matters)
 1:30pm. TPWS and IRS Joint or Separate Meetings
 1:30pm. PCC/PCAS Joint WG Meeting and Workshop
**Joint WG Workshops: pH Measurements at Different Temperatures, and
 Ultra-Supercritical Plants**
- Tuesday 26 August. 8:30am. PCAS/PCC Joint Workshop
Chemistry in Ultra Supercritical Plants
 8:30am. TPWS and IRS Joint or Separate Working Groups Meetings.
 1:30pm All WG Meeting
 2:30pm IRS and PCC Separate WG Meetings
 2:30pm TPWS/PCAS Joint Meeting
Topics of Interest to Both WGs
- Wednes. 27 August. 9:00-5:00 **IAPWS Symposium**
"Aqueous Thermodynamics in Power Generation"
- Thursday 28 August. 8:30am. TPWS/IRS/PCAS/PCC Separate or Joint WG Meetings
 1:30pm. Special Session of all Working Groups
 7:00 pm. IAPWS Dinner.
(Hosted by Danish National Committee)
- Friday 29 August. 9:00am. Executive Meeting **(9:00am - 4: 00pm)**
 (Will include at least one member from each National Delegation)
- Saturday 30 August. 9:00am. Technical Visit to Skaerbaekvaerket Plant

TPWS - Thermophysical Properties of Water and Steam WG
 PCAS - Physical Chemistry of Aqueous Solutions WG
 PCC - Power Cycle Chemistry WG
 IRS - Industrial Requirements and Solutions WG

Barry Dooley
 August 2003