

• **The Aims**

The International Association for Transport Properties (IATP) is a non-profit grouping of scientists devoted to the advancement of the transport properties of materials. In particular, the association is engaged in the preparation of representations of the transport properties that are of value to engineering process design, and to the description of natural processes in the environment where international collaboration and agreement is specially significant. These developments will be carried out in the context of the underlying science and with the intention of improving understanding.

IATP was formerly known as the Subcommittee on Transport Properties of the International Union of Pure and Applied Chemistry (1981 - 2001).

Further info at : <http://transp.eng.auth.gr>

2001 - 2004      Chairman : Professor W.A. Wakeham

• **List of Scientific Meetings**

1. 2001      Chalkidiki, Greece
2. 2002      Imperial College, London, U.K.
3. 2003      Boulder, Colorado, U.S.A.

• **Books Published (as STP/IUPAC)**

1. *Experimental Thermodynamics. Vol. III. Measurement of the Transport Properties of Fluids.*  
Eds. A. Nagashima, J.V. Sengers and W.A. Wakeham.  
Blackwell Scientific Publications (1991).
2. *Transport Properties of Fluids. Their Correlation, Prediction and Estimation.*  
Eds. J.H. Dymond, J. Millat and C.A. Nieto de Castro.  
Cambridge University Press (1996).

# 4th

## Meeting of the International Association for Transport Properties

(former Subcommittee on Transport Properties  
of IUPAC Commission I.2: Thermodynamics)



2 - 4 July, 2004

Hotel Continental  
Pau, France

### Programme



Local Organising Committee  
Prof. C. Boned ([christian.boned@univ-pau.fr](mailto:christian.boned@univ-pau.fr))  
Dr. A. Baylaucq ([antoine.baylaucq@univ-pau.fr](mailto:antoine.baylaucq@univ-pau.fr))

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- All presentations are informal and are followed by a discussion period.

## Friday, 2<sup>nd</sup> July 2004

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- 16:00 Afternoon visit to the high-pressure facilities of "Laboratoire des Fluides Complexes" (Viscosity, Density, Ultrasound velocity, High-Pressure Microscopy, Heat capacity...) <http://www.univ-pau.fr/recherche/LFC/>
- 20:00 "Breaking Ice" cocktail party ("aperitif")
- 21:00 Dinner at the hotel

## Saturday, 3<sup>rd</sup> July 2004

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- 09:00 Opening Remarks.  
*W.A. Wakeham (UK).*

### Scientific Session A

- 09:10 Temperature and Volume Dependence of the Viscosity of Water and Heavy Water at Low Temperatures.  
*K.R. Harris (Australia)*
- 09:30 Measurements on Gaseous Sulphur Hexafluoride with a Vibrating-wire Viscometer.  
*E. Vogel (Germany)*
- 09:50 Viscosity Measurements of Several Fluids Using a Rolling-Ball Viscometer up to 60 MPa.  
*A.S. Pensado, M.J.P. Comupas, L. Lugo, J. Fernandez (Spain)*
- 10:10 Viscosity and Thermal Conductivity of Petroleum Fractions.  
*H. G. Yucel (Turkey)*
- 10:30 Coffee
- 10:50 Viscosity and Thermal Diffusivity of 4-Component Refrigerant.  
*A. Froeba, A. Leipertz (Germany)*
- 11:10 Recent Developments on the Measurements of High-Viscosity Fluids.  
*J.M.N.A. Fareleira, F.J.P. Caetano, C. Oliveira (Portugal)*
- 11:30 Rheological Properties of Fresh Mortar and Concrete with Mineral and Chemical Admixtures.  
*K. T. Yucel (Turkey)*
- 11:50 Relationship between Microstructure of Molecules and their Thermophysical Properties.  
*A. Allal, D. Bessières, C. Boned (France)*
- 12:10 Viscosity of Simple Fluids by NonEquilibrium Molecular Dynamics.  
*G. Galliero, C. Boned, J. P. Caltagirone, A. Baylaucq, F. Montel (France)*
- 12:30 Discussion
- 13:00 Lunch.

### Scientific Session B

- 15:00 Viscosity and Density of 26 Molten Metals.  
*M. Tsiliniou, L. Ollandezou, M. Assael (Greece)*
- 15:20 Estimation of the Viscosity of Molten Chromium from the Results of Binary Alloys.  
*Y. Sato (Japan)*
- 15:40 Molecular Dynamics Simulation of the Viscosity and Thermal Conductivity of Molten Alkali Halides  
*N. Galamba, J.E. Ely, C.A. Nieto de Castro (Portugal)*

### Business Session

- 16:00 Announcements.
- Concluded Collaborative Projects
    1. Viscosity of Cyclopentane  
*M.J. Assael, N.K. Dalaouti (Greece), H. Bauer (Germany), K. Harris (Australia)*  
Published in *Int. J. Thermophys.* **25**:13-20 (2004).
  - Continuing Collaborative Projects
    2. Viscosity of Alkali Chlorides  
*H. Oye (Norway), C.A. Nieto de Castro (Portugal)*
    3. Viscosity and Thermal Conductivity of Water & Steam  
*M.J. Assael (Greece), E. Vogel, J. Millat (Germany), A. Nagashima (Japan), D. Friend, J.V. Sengers (USA)*
    4. Viscosity of *n*-Pentane  
*A. Laesecke (USA), E. Vogel (Germany), M.J. Assael (Greece)*
    5. Investigation of a New High-Viscosity Standard  
*J.M.N.A. Fareleira, C.M.B.P. Oliveira (Portugal), M.J. Assael (Greece), A. Leipertz, H. Bauer (Germany), A. Nagashima (Japan)*
    6. On the Book on the Properties of Water, Air and Sea Water  
*A. Nagashima (Japan), M.J. Assael (Greece), J. Millat (Germany).*
    7. Correlation of the Thermal Conductivity of R134a.  
*R. Perkins, A. Laesecke, J.V. Sengers (USA)*
    8. Feasibility Study on Properties of Ionic Fluids  
*E. Vogel (Germany), K. Marsh (New Zealand), A. Padua (France), J.M.N.A. Fareleira (Portugal)*
  - Future Collaborative Projects: Proposals.
  - Membership.
  - Future Meetings.
- Adjourn
- 20:15 Coach departure for the Dinner.