The International Association for Transport Properties

- **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.cheng.auth.gr

2001 - 2011 Chairman : Professor Sir W.A. Wakeham
Secretary : Professor M.J. Assael

- **List of Scientific Meetings**

1. 2001 Chalkidiki, Greece
2. 2002 Imperial College, London, U.K.
3. 2003 Boulder, Colorado, U.S.A.
4. 2004 Pau, France
5. 2005 Bratislava, Slovakia
6. 2006 Boulder, Colorado, U.S.A.
7. 2007 Istanbul, Turkey
8. 2008 Pau, France
9. 2009 Boulder, Colorado, U.S.A.
10. 2010 Santiago de Compostela, Spain

- **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, Predi-ction and Estimation.*
   Eds. J.H. Dymond, J. Millat and C.A. Nieto de Castro.
   Cambridge University Press (1996).

11th

Meeting of the

International Association for Transport Properties

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

September 1 - 2, 2011

Santa Beach Hotel (former Galaxias Hotel)
Aghia Triada, Thessaloniki, Greece

Program

Local Organising Committee

Prof. Marc J. Assael (assael@auth.gr)

Dr. Konstantinos D. Antoniadis (antoniad@cheng.auth.gr)

Ms Sofia Mylona (smylona@auth.gr)

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

Thusday September 1st, 2011

14:00 Departure by bus from "N.Germanos", HELEXPO. (participants are expected to have their luggages with them)
- Arrival at SantaBeach Hotel (former Galaxias Hotel)
- Free afternoon for swimming, meetings, or both...

18:30 Discussion on possible submission on COST project on ionic fluids transport properties.

20:00 Greek barbeque by the pool

Friday September 2nd, 2011

09:30 Opening remarks.
W.A. Wakeham (UK).

Scientific Session A. Ionic liquids

09:40 High-pressure characterization of dynamic viscosity and derived properties for four ionic liquids
J. Fernandez, F.M. Gaciño, M.J.P. Comuñas, X. Paredes (Spain)

10:00 On the nature of ionic liquid solvent mixtures from thermophysical properties research.
M.H. Rausch, A. Leipertz, A.P. Fröba (Germany)

10:20 Unusual transport property behaviour of certain ionic liquids
K.R. Harris, M. Kanakubo (Australia)

10:40 Coffee

Scientific Session B.

11:10 Modelling the viscosity of simple fluids based on a new interpretation of Enskog theory
R. Umla, N. Riesco, V. Vesovic (UK)

11:30 Lorentz force sigmometry: new ideas and open questions
A. Thess (Germany)

11:50 Characteristics of CnmimNTf2/*n*-Alcohol systems and efforts for the determination of thermophysical properties therein
V. Vale, B. Rathke, S. Will, W. Schroer (Germany)

12:10 Density and viscosity of molten antimony, bismuth, lead, nickel and silver
M.J. Assael, A. Kalyva, K.D. Antoniadis (Greece), W.A. Wakeham (UK), I. Egry (Germany), J.T. Wu (R.P. China), E. Kaschnitz (Austria), M. Banish (USA).

12:30 New formulation for the thermal conductivity of H_2O
J.V. Sengers, M.L. Huber, R.A. Perkins, D.G. Friend (USA), M.J. Assael, I.N. Metaxa (Greece), E. Vogel (Germany), R. Mareš (Czech Republic), K. Miyagawa (Japan).

12:50 Effect of water on the thermal conductivity of ionic liquids – a surprising result?
C A. Nieto de Castro, J. França (Portugal)

13:10 Aspects of fluid dynamic simulation of heavy oils
H. Hinojosa-Gómez, S.E. Quiñones-Cisneros (Mexico)

13:30 Lunch

Business Session.

14:30 Announcements.

- Projects Concluded

1. Reference data for the density and viscosity of liquid copper and liquid tin
*M.J. Assael, A.E. Kalyva, K.D. Antoniadis, M. Banish, I. Egry, P.N. Quested, J. Wu, E. Kaschnitz, W.A. Wakeham, J. Phys. Chem. Ref. Data **39**:033105:1-9 (2010).*

2 Reference data for the density and viscosity of liquid antimony, bismuth, lead, nickel and silver
M.J. Assael, A.E. Kalyva, K.D. Antoniadis, M. Banish, I. Egry, J. Wu, E. Kaschnitz, W.A. Wakeham, High Temp. High Press. (submitted)

- Continuing Collaborative Projects

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. High-temperature, high-pressure viscosity standards
J.M.N.A. Fareleira, F. Caetano (Portugal), W.A. Wakeham, J.P.M. Trusler (UK), A.P. Froba, A. Leipertz, B. Rathke (Germany), K. Harris (Australia), A.R.H. Goodwin, A. Laesecke (USA), J. Fernandez (Spain), K. Schmidt (Canada), Chr. Boned (France)

5. Reviews of modern viscosity measurement techniques
A.H.R. Goodwin(USA), W.A. Wakeham(UK), M.J. Assael (Greece) and colleauges to be appointed

6. Short review paper on evaluation of existing thermal conductivity measurements
M.J. Assael (Greece), W.A. Wakeham (UK), J. Wu (R.P. China), C.A. Nieto de Castro (Portugal), M. Banish (USA)

7. Ionic liquids viscosity, thermal conductivity, measurements for a new IUPAC standard
C.A. Nieto de Castro (Portugal), A. Froeba, A. Leipertz, U. Hammerschmidt (Germany), J. Fernandez (Spain), R. Perkins (USA), K. Harris (Australia).

15:30 Coffee

- Future Collaborative Projects: Proposals

8. Reference correlation for the thermal conductivity of toluene
M.J. Assael (Greece), M. Huber, R. Perkins (USA)

8. Mexico research perspectives in the rheology of heavy oils
S.E. Quiñones-Cisneros (Mexico)

- Membership
- Future Meetings

17:20 Meeting Adjourn

17:40 Meetings of Project Committees

21:00 Dinner in a Taverna.