

**Preliminary Agenda for the IAPWS Working Group
Thermophysical Properties of Water and Steam (TPWS)
Stockholm, Sweden, 29 June - 2 July 2015**

1. Opening Remarks; Adoption of Agenda
2. Appointment of Clerk of Minutes
3. OPAL Web Space for Working Material for WGs TPWS, IRS, and SC SW, joint with WG IRS and SC SW (H.-J. Kretzschmar)
4. Potential International Collaborative Projects [Monday]
5. Industrial Requirements and Solutions for Steam Property Calculations, joint with WG IRS [Monday]
 - 5.1 Report of the Task Group "Industrial Advisory Note" (M. Hiegemann, B. Rukes, A. Singh, A. Harvey)
6. Proposal for an IAPWS Guideline on the Fast Calculation of Steam and Water Properties in Computational Fluid Dynamics Using Spline Interpolation, joint with WG IRS [Monday]
 - 6.1 Report of proposers (H.-J. Kretzschmar, M. Kunick, J. Hrubý, M. Duška, V. Vinš, F. di Mare, A. Singh)
 - 6.2 Report of Evaluation Task Group (A. Novy et al.)
 - 6.3 Formal consideration of the Guideline
7. Heavy Water Properties, joint with WG IRS [Monday]
 - 7.1 Report of Task Group on Heavy Water Thermodynamic Properties (R. Span, A. Harvey, S. Herrig)
 - 7.2 Report of TG for Heavy Water Transport Properties (J. Sengers, M. Assael, M. Huber; reported by A. Harvey)
8. Report of Task Group on Surface Tension of Ordinary Water (joint with WG IRS and SC SW) (V. Vinš, A. Harvey, O. Hellmuth, V. Holten, J. Hrubý, J. Kalova, R. Mareš) [Monday]
9. Behavior of IAPWS-95 from 250 K to 300 K and up to 400 MPa: Evaluation Based on Recently Derived Property Data (W. Wagner, M. Thol) [Monday]
10. Humid Air Fugacity and Enhancement Factor, joint with SC SW
 - 10.1 Report of the proposers of "Guideline on a Virial Equation for the Fugacity of H₂O in Humid Air" (R. Feistel, O. Hellmuth, J. Lovell-Smith)
 - 10.2 Report of the Evaluation Task Group (A. Harvey, H.-J. Kretzschmar)
 - 10.3 Formal consideration of the Guideline by the Working Groups
 - 10.4 Next steps: Determination of the enhancement factor and saturated water vapor mole fraction (O. Hellmuth, R. Feistel, J. Lovell-Smith, J. Kalova, H.-J. Kretzschmar, S. Herrmann)

11. Metastable Water (joint with SC SW) [Tuesday]
 - 11.1 Background of supercooled water Guideline (V. Holten, M. Anisimov, J. Sengers)
 - 11.2 Report of Evaluation Task Group on Supercooled Water Guideline (J. Hrubý)
 - 11.3 Formal consideration of the Guideline by the Working Group
 - 11.4 Report on Task Group on Supercooled Water ICRN (O. Hellmuth, V. Holten, J. Sengers, J. Hrubý)
 - 11.5 Formal consideration of Supercooled Water ICRN
 - 11.6 Progress of measurements of density of supercooled water at elevated pressures (M. Duška, J. Hrubý)
 - 11.7 Report of Task Group on Superheated liquid water, joint with WG IRS and SCSW (H.-J. Kretzschmar)
 - 11.8 Report of Task Group on possible revision of IAPWS formulations for melting curves (V. Holten, A. Harvey, H.-J. Kretzschmar)
12. Report of Task Group on Extension of Range of Formulation for Thermodynamic Properties of Sea Water, joint with WGs IRS and SC SW (R. Feistel) [Tuesday]
13. Cooperation with other international bodies, joint with SC SW [Tuesday]
 - 13.1 IAPWS/IAPSO/SCOR Joint Committee on Seawater, including updates to TEOS-10 (R. Pawlowicz)
 - 13.2 Metrologia article on BIPM/IAPWS interaction (R. Feistel)
 - 13.3 Cooperation with BIPM (Uncertainty Workshop) (R. Feistel)
14. Reports on seawater-related topics, joint with SCSW [Tuesday]
 - 14.1 Best practices guide for density analysis (H. Wolf, S. Weinreben, H. Uchida, R. Pawlowicz)
 - 14.2 The Conductance-Density Relation of Standard Seawater (Schmidt, Wolf)
 - 14.3 Seawater Density Comparison (Schmidt, Wolf)
 - 14.4 Nonlinearities in Seawater density measurements (Uchida)
 - 14.5 Density anomalies in coastal waters (R. Pawlowicz, H. Uchida, F. Millero)
 - 14.6 Update on GSW software toolbox (Feistel and Barker)
 - 14.7 Update on seawater pH (Fesitel and Camoes)
15. Proposed new IAPWS seawater-related documents (joint with SCSW) [Tuesday]
 - 15.1 Discussion on Guideline for Practical Salinity formula also covering the low salinity range.
 - 15.2 Discussion on Supplementary Release for a simplified density equation for oceanographic use.
 - 15.3 Appointment of Task Groups, if appropriate.

16. Reports on miscellaneous TPWS scientific topics (joint with WG IRS)
 - 16.1 Thermophysical property research at Helmut-Schmidt-University in Hamburg (K. Meier)
 - 16.2 A comparative study of $P_s(T)$ models for H_2O in the critical region (E. E. Ustyuzhanin, V. F. Ochkov)
 - 16.3 Online calculation from IAPWS formulations (V. Ochkov, K. Orlov)
 - 16.4 Innovative concept for fluid property approximations (M. Hiegemann)
17. Joint session with WG PCAS [Thursday morning]
 - 17.1 Report of Task Group on Transport Properties of Seawater, joint with SC SW and WG IRS (A. Anderko, A. Harvey)
 - 17.2 Report of Evaluation Task Group for Seawater Thermal Conductivity (R. Pawlowicz)
 - 17.3 Formal consideration of Guideline on Thermal Conductivity of Seawater
 - 17.4 Progress toward improved ideal-gas properties of ordinary and heavy water (J. Hrubý)
 - 17.5 Development of first-principles data to extend knowledge of the second virial coefficient of ordinary and heavy water (A. Harvey, G. Garberoglio, P. Jankowski, K. Szalewicz)
 - 17.6 Modeling thermodynamic properties of mixtures of natural substances used as working fluids for heat pumps and organic Rankine cycle (H. Miyamoto, R. Akasaka, E. Lemmon)
18. IAPWS Certified Research Needs (ICRNs)
 - 18.1 ICRN 27: Thermophysical Properties of Humid Gases and CO_2 -Rich Mixtures (closing statement needed) (R. Span, A. Harvey)
19. Reports on other TPWS activities
 - 19.1 Guideline on Fundamental Constants (A. Harvey)
 - 19.2 Advisory Note 2 (J. Cooper, A. Harvey)
20. Other Business
 - 20.1 Report on International Collaborative Projects
21. Membership
22. Contribution to Press Release
23. Preparation of the Formal Motion to the EC
24. Adjournment

June 19, 2015

A.H. Harvey (Chair), J. Hrubý (Vice-Chair)