

# ICPWS17 CONFERENCE PROGRAMME

Day 1		Sunday, September 2, 2018			
<b>Hall 1</b>					
18:00–21:00	<b>CONFERENCE REGISTRATION AND ICE-BREAKER COCKTAIL</b>				
	Prague Marriott Hotel Foyer Conference Area, V Celnici 8, 110 00 Praha 1				
	All ICPWS17 delegates are invited to attend the Welcome Ice-Breaker Cocktail. This is an excellent opportunity to collect your registration documents and meet the other delegates over snacks and a drink before the conference gets underway the following day.				
Day 2		Monday, September 3, 2018			
<b>Hall 1</b>					
08:30 – 08:40	<b>WELCOME ADDRESS FROM THE PRESIDENT OF IAPWS, PROFESSOR HANS-JOACHIM KRETZSCHMAR</b>				
08:40 – 09:20	<p style="text-align: center;"><b>IAPWS Gibbs Award Lecture</b></p> <p style="text-align: center;">Fernandez-Prini, Instituto de Química Física de los Materiales, Medio Ambiente y Energía, Argentine Republic</p> <p style="text-align: center;"><b>Molecular Conformation of Long Chain n-Alkanes (LCA's): from gas phase to bulk water through the interface: the Gibbs and the Instantaneous Interfaces</b></p> <p style="text-align: center;">By E. Murina, C. Pastorino and R. Fernández Prini [CNEA, FCEN-UBA &amp; CONICET].</p> <p>IAPWS GIBBS AWARD: The IAPWS Gibbs Award is given at each International Conference on the Properties of Water and Steam(ICPWS) to a distinguished scientist or engineer who has made substantial contributions to the development of knowledge on the properties of water, steam and aqueous solutions at high temperatures and pressures, as well as to other areas of underlying science and technology of interest to IAPWS. Nominations are made by the IAPWS National Committee or Working Groups. A committee, consisting of representatives from each IAPWS Working Group, chooses the winner from among the nominees at the annual APWS meeting in the year prior to the award. The winner receives a medal and complementary attendance to the ICPWS conference, where they will have the opportunity to present a keynote lecture.</p> <p>This year's Gibbs Award winner is Professor Fernandez-Prini from Instituto de Química Física de los Materiales, Medio Ambiente y Energía, Argentine Republic.</p>				
09:20 – 10:00	<p style="text-align: center;"><b>KEYNOTE LECTURE</b></p> <p style="text-align: center;">Susanne Picard (BIPM - Bureau international des poids et mesures)</p> <p style="text-align: center;"><b>Title to be announced</b></p>				
10:00 – 10:40	<p style="text-align: center;"><b>KEYNOTE LECTURE</b></p> <p style="text-align: center;">Attila G. Császár (Eötvös Loránd University, Budapest)</p> <p style="text-align: center;"><b>Ideal ideal-gas thermochemical functions</b></p>				
10:40 – 11:00	COFFEE BREAK				
11:00 – 12:00	<p style="text-align: center;"><b>KEYNOTE LECTURES</b></p> <p style="text-align: center;">Roland Span (Ruhr-Universität Bochum) and Martin Trusler (Imperial College London)</p> <p style="text-align: center;"><b>Capture, Transport and Storage of Carbon Dioxide – Thermodynamic Property Models for Different Tasks in an Integrated Chain of Processes</b></p>				
12:00–14:00	LUNCH				
	<b>Hall 1</b>		<b>Hall 2</b>		<b>Hall 3</b>
14:00–15:00	<b>PCC1 Technical Guidance Documents (TGD)</b>	14:00–15:00	<b>SW1 Effects of Seawater Salt Composition</b>		
14:00–14:05	Dooley, Barry <b>Introduction to TGD</b>	14:00–14:20	Le Menn, Marc <b>The absolute salinity of seawater, its real components and its measurands</b>		
14:05–14:10	Rziha, Michael; Dooley, Barry <b>Importance of TGD</b>	14:20–14:40	Pawlowicz, Rich <b>Composition changes in sea salt and their effect on conductivity/ salinity/density relationships in seawater</b>		

14:10–14:30	Addison, Thomson <b>Field-tests on the route towards a corrosion product sampling and analysis TGD covering flexible plants</b>	14:40–15:00	Uchida, Hiroshi <b>A modified algorithm for estimating absolute salinity</b>		
14:20–14:45	Hater, Lendi <b>Film forming substances</b>				
14:45–15:00	Carvalho, Luis <b>Air in-leakage</b>				
15:00–15:30	COFFEE BREAK				
15:30–17:30	<b>TPWS1 Metastable Water</b>	15:30–16:50	<b>PCAS1 Aqueous Solution Chemistry</b>	15:30–17:30	<b>SWW1 Salinity and Density of Seawater</b>
15:30–15:50	Lago, Simona <b>Speed of sound measurements in subcooled water</b>	15:30–15:50	Tremaine, Peter <b>Uranyl sulfate complexation under hydrothermal conditions by quantitative Raman spectroscopy and density functional theory calculations</b>	15:30–15:50	Pawlowicz, Rich <b>JCS Workshop #1 on the Salinity and Density of Seawater: Introduction</b>
15:50–16:10	Blahut, Aleš <b>Measurements of density for supercooled ordinary water, heavy water, and seawater at high pressures</b>	15:50–16:10	Anderko, Andre <b>Modeling phase equilibria and solution chemistry in complex aqueous systems containing rare earth elements</b>	15:50–16:10	Seitz, Steffen <b>Progress towards SI traceability</b>
16:10–16:30	Vinš, Václav <b>Seven years of measurement of the surface tension of supercooled water and aqueous mixtures at IT CAS</b>	16:10–16:30	Yoshida, Ken <b>Unimolecular pyrolysis of dimethyl ether: Elementary fragmentation into methane and formaldehyde evidenced by gas 1H NMR</b>	16:10–16:30	Kayukawa, Yohei <b>Absolute density measurements of seawater</b>
16:30–16:50	Issenmann, Bruno <b>Viscosity of supercooled water under pressure and two-state interpretation of water anomalies</b>	16:30–16:50	Rathke, Bernd <b>Nucleation rates of carbon dioxide gas-hydrates</b>	16:30–17:30	Pawlowicz, Rich <b>Discussion</b>
16:50–17:10	Caupin, Frédéric <b>Equation of state of water at negative pressure and relations between lines of thermodynamic anomalies</b>				
17:10–17:30	Imre, Attila R. <b>Application of quintic and quasi-quintic equation of states to describe some peculiarities of metastable water</b>				

<b>Day 3</b>	<b>Tuesday, September 4, 2018</b>				
	<b>Hall 1</b>		<b>Hall 2</b>		<b>Hall 3</b>
08:30–10:10	<b>PCC2 Cycle Chemistry</b>	08:30–10:30	<b>IRS1 Computational Fluid Dynamics and Calculations</b>	08:30–10:30	<b>SWW2 pH of Seawater</b>
08:30–08:50	Dooley, Barry <b>The status of cycle chemistry worldwide for fossil and combined cycle plants</b>	08:30–08:50	Sedlar, Milan <b>Numerical modeling of three-dimensional cavitating flow of air-saturated water around hydrofoil</b>	08:30–08:50	Dickson, Andrew <b>JCS Workshop #2 on the pH of Seawater: Introduction</b>
08:50–09:10	Cook, William <b>An electrochemical investigation of the effect of impurity concentration on the corrosion of boiler steels</b>	08:50–09:10	Lister, Derek <b>The localised thinning of pipe walls by disturbed flows</b>	08:50–09:10	Bastkowski, Frank <b>Traceability of spectrophotometrically measured pHT values of TRIS buffered artificial seawater in the salinity range 5–20</b>

09:10–09:30	Holl, Christiane <b>Alkalizing treatment with lithium hydroxide—practical examples in CCGTs and industrial plants</b>	09:10–09:30	Lavaei, Alireza <b>Water hammer analyses using characteristic method</b>	09:10–09:30	Clegg, Simon <b>A traceable thermodynamic speciation model, with quantified uncertainties, of pH in Tris buffers in artificial seawaters</b>
09:30–09:50	Ludwin, Daal <b>Operation and maintenance of process and cooling water systems in a renewable world</b>	09:30–09:50	Lohrasbi, Alireza <b>Dam break modeling using Euler equations</b>	09:30–10:30	Dickson, Andrew <b>Discussion</b>
09:50–10:10	Powalisz, John <b>Intelligent chemistry alarms</b>	09:50–10:10	Ochkov, Valery <b>Hybrid calculations of the thermodynamic properties of substances</b>		
10:10–10:30	Bellows, James <b>Toward a resolution of the amines vs. hydrogen cation exchanged conductivity question</b>	10:10–10:30	Kunick, Matthias <b>The IAPWS guideline on the fast calculation of steam and water properties with the spline-based table look-up method (SBTL)</b>		
10:30–11:00	COFFEE BREAK				
11:00–12:00	<b>PCC2 Flow-accelerated Corrosion and Corrosion Products</b>	11:00–11:40	<b>SW2 TEOS-10 Applications</b>		
11:00–11:20	Moghul, Dennis <b>Distribution of organic anions in the secondary side and their influence on Monel 400 steam generator tubing at Pickering Nuclear Generating Station Unit 4</b>	11:00–11:20	McDougall, Trevor <b>A thermodynamic potential of seawater as a function of potential enthalpy</b>		
11:20–11:40	Palazhchenko, Olga <b>UNB's CANDU-6 primary heat transport system code: implications of corrosion product transport on heat transfer degradation and activity fields</b>	11:20–11:40	Almeida, Lucas <b>Impact of the new equation of state of seawater (TEOS-10) on the estimates of water mass mixture and meridional transport in the Atlantic Ocean</b>		
11:40–12:00	Liao, Kristine <b>Boron removal in the CANDU Moderator System</b>				
12:00–13:30	LUNCH				
13:30–15:10	<b>PCC3 Flow Accelerated Corrosion</b>	13:30–14:30	<b>TPWS2 Surface Tension and Sound Speed</b>	13:30–15:30	<b>SWW3 Relative Humidity</b>
13:30–13:50	Lister, Derek <b>Flow-accelerated corrosion – theory and practice: The latest understanding of the FAC mechanism</b>	13:30–13:50	Mares, Radim <b>Measurements of the surface tension of the supercooled ordinary water substance down to -32 °C</b>	13:30–13:50	Hellmuth, Olaf <b>JCS Workshop #3 on Relative Humidity: Summary of Aims</b>
13:50–14:10	Dooley, Barry <b>Flow-accelerated corrosion – theory and practice: The experience in fossil and combined cycle plants</b>	13:50–14:10	Kalova, Jana <b>A new equation for the temperature dependence of the surface tension of water</b>	13:50–14:10	Feistel, Rainer <b>Progress in development of RH</b>
14:10–14:30	Kanyile, Sabelo <b>Corrosion product transport monitoring using corrosion product sampler, particle counter, and particle monitor in the water and steam circuit</b>	14:10–14:30	Meier, Karsten <b>Speed-of-sound measurements and derived thermodynamic properties of liquid water</b>	14:10–14:30	Bell, Stephanie <b>Relationship between RH and SI metrology</b>

14:30–14:50	Sawatsubashi, Tetsuya <b>Analytical method for iron tracing in boiler feedwater using filter concentration method</b>			14:30–15:30	Hellmuth, Olaf <b>Discussion</b>
14:50–15:10	Powalisz, John <b>Integrated corrosion products sampling and case study</b>				
15:10–16:30	COFFEE BREAK + POSTER SESSION				
16:30–17:30	<p style="text-align: center;"><b>IAPWS Helmholtz Award Lecture</b> Hugues Arcis, University of Guelph, Canada <b>Title to be announced</b></p> <p>IAPWS HELMHOLTZ AWARD: The IAPWS Helmholtz Award is given yearly to a qualified researcher who, at the time of the nomination, received his or her last earned degree less than 15 years earlier. There is no requirement for the nominee to be associated with IAPWS. The award recognises talented and developing scientists and engineers who are making significant contributions to, or defining new directions in the areas of research of interest to IAPWS; and to encourage them to become active in IAPWS. Nominations are made by any individual outside of the IAPWS Award Committee; self-nominations are not allowed. A committee, made up of representatives from five IAPWS member nations, selects the winner from among the nominees. The winner receives a framed certificate and complimentary attendance to the annual IAPWS meeting (in this case it is ICPWS17), where they will have the opportunity to present the Helmholtz Award lecture. This year's Helmholtz Award winner is Hugues Arcis from University of Guelph, Canada.</p>				
17:30–18:00	<b>IAPWS GENERAL MEETING</b>				

<b>Day 4</b>	<b>Wednesday, September 5, 2018</b>
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<b>Hall 1</b>		<b>Hall 2</b>		<b>Hall 3</b>	
08:30–10:30	<b>PCC4</b> <b>Film Forming Substances</b>	08:30–10:30	<b>TPWS3</b> <b>Molecular Theory and Simulation</b>	08:30–10:30	<b>SWW4</b> <b>Joint Committee on Seawater (JCS): Where Next?</b>
08:30–08:50	Xue, Yu <b>Fate and distribution of film forming and alkalizing amines in steam-water cycles</b>	08:30–08:50	Hellmann, Robert <b>Cross second virial coefficient and dilute gas transport properties of (water vapor + carbon dioxide) mixtures from ab initio intermolecular potentials</b>	08:30–08:50	Pawlowicz, Rich <b>JCS Workshop #4 Where next with the Joint IAPWS/SCOR/IAPSO Committee on the Properties of Seawater (JCS): Introduction</b>
08:50–09:10	De Meyer, Evelyn <b>The effect of boiler conditions on the thermolysis of film forming amines</b>	08:50–09:10	Harvey, Allan <b>Ab initio calculation of the second and third virial coefficients for H<sub>2</sub>O and D<sub>2</sub>O</b>	08:50–09:10	McDougall, Trevor <b>Review – History and need for JCS: an oceanographers viewpoint</b>
09:10–09:30	Petrova, Tamara <b>Distribution ratios of polyamines present in helamin chemical between boiling water and saturated steam</b>	09:10–09:30	Yuhara, Daisuke <b>Isothermal-isometric molecular dynamics approach for prediction of three-phase equilibrium conditions of methane hydrate system</b>	09:10–09:30	Pawlowicz, Rich <b>JCS terms of reference</b>
09:30–09:50	Dyachenko, Filipp <b>AVT vs FFAP treatment: comparison of key indices</b>	09:30–09:50	Ayuba, Sho <b>Evaluating the methodology of classical nucleation theory using large scale molecular dynamics simulation</b>	09:30–10:30	Pawlowicz, Rich <b>Discussion</b>
09:50–10:10	Disci-Zayed, Duygu <b>Adsorption of oleyl propylenediamine on metal surfaces</b>	09:50–10:10	Nemec, Tomas <b>Agreement between nucleation rate predictions by classical nucleation theory and molecular dynamics simulations of droplet nucleation in water vapor</b>		
10:10–10:30	Vidojkovic, Sonja <b>Thermal decomposition of film forming amines in the power generating cycle</b>	10:10–10:30	Nezbeda, Ivo <b>Water: from supercooled liquid to supersaturated steam</b>		
10:30–11:00	COFFEE BREAK				

11:00–12:00	<b>SW3</b> <b>Physical Properties of Seawater</b>	11:00–12:00	<b>PCAS2</b> <b>Electrochemistry and Corrosion</b>		
11:00–11:20	Giuliano Albo, P. Alberto <b>Comparison between TEOS-10 estimated density and experimental density measured in IAPSO standard seawater by a single sinker hydrostatic balance</b>	11:00–11:20	Svishchev, Igor <b>Corrosion, hydrogen evolution and combustion in supercritical water</b>		
11:20–11:40	Kayukawa, Yohei <b>Absolute density measurements for sea-water by a hydrostatic weighing method</b>	11:20–11:40	Macák, Jan <b>In-situ electrochemical impedance measurements of corroding steel in supercritical water</b>		
11:40–12:00	Nayar, Kishor <b>Viscosity of seawater</b>	11:40–12:00	Niu, Li-Bin <b>Corrosion behavior of STBA24 steel and its weldment in the simulated boiler water added chloride ions and formic acid</b>		
12:00–13:30	LUNCH				
13:30–14:30	<b>IRS2</b> <b>Non-Equilibrium Wet Steam Flow</b>	13:30–14:50	<b>TPWS4</b> <b>Models and Formulations</b>		
13:30–13:50	Afzalifar, Ali <b>Nucleation-growth models: the status and a logical assessment</b>	13:30–13:50	Jäger, Andreas <b>A theoretically based departure function for multi-fluid mixture models applied to mixtures containing water</b>		
13:50–14:10	Hruby, Jan <b>Cluster distribution and nucleation in steam over a broad temperature range</b>	13:50–14:10	Hielscher, Sebastian <b>A new model for mixed hydrates consistent with multiparameter equations of state</b>		
14:10–14:30	Post, Pascal <b>Highly efficient approach for non-equilibrium condensing steam flows in OpenFOAM based on the spline-based table lookup method</b>	14:10–14:30	Herrmann, Sebastian <b>Development of viscosity formulations for working fluids using a structure-optimization method</b>		
		14:30–14:50	Tabandeh, Shahin <b>Review of the humidity formulations for dew point temperatures above 100 °C</b>		
15:00–15:30	COFFEE BREAK				
15:30–16:50	<b>PCC5</b> <b>Cycle Chemistry in Various Plants</b>	15:30–16:30	<b>TPWS5</b> <b>Heavy Water</b>		
15:30–15:50	Burton, Gordon <b>Sulphate adsorption on magnetite under steam generator chemistry conditions</b>	15:30–15:50	Romeo, Raffaella <b>Deuterium oxide density in stable and metastable states at pressure up to 400 MPa</b>		
15:50–16:10	Hirano, Hideo <b>Makeup water treatment systems in nuclear power plants</b>	15:50–16:10	Beltramino, Giulio <b>Vapour pressure measurements over liquid heavy water in the temperature range from 260 K to 285 K</b>		
16:10–16:30	Addison, David <b>Geothermal steam turbine deposition mechanisms</b>	16:10–16:30	Herrig, Stefan <b>A new reference equation of state for heavy water</b>		

16:30–16:50	Hater, Wolfgang <b>The application of an environmental friendly scale-Inhibitor to mitigate deposit formation in the Soutz geothermal power plant</b>				
19:00–22:00	<b>IAPWS DINNER</b> Subject of extra fee. Group photo will be taken before the dinner.				

<b>Day 5</b>		<b>Thursday, September 6, 2018</b>			
<b>Hall 1</b>		<b>Hall 2</b>			
08:30–10:10	<b>PCC6</b> <b>Flue Gas Condensation</b>	08:30–09:30	<b>IRS3</b> <b>Energy Process Simulation and Engineering Requirements</b>		
08:30–8:50	Fogh, Folmer <b>District heat and flue gas condensation</b>	08:30–08:50	Bartos, Ondrej <b>A formation of the coarse droplets from the liquid films in steam turbine</b>		
08:50–09:10	Fogh, Folmer <b>Management of flue gas condensate at Skærbækværket unit 401/402</b>	08:50–09:10	Magnusdottir, Lilja <b>Implementation and use of IAPWS-IF97 in iTOUGH2 for modeling supercritical conditions in geothermal reservoirs</b>		
09:10–09:30	Hellman, Mats <b>Teething problems with flow gas condensate cleaning technology</b>	09:10–09:30	Okita, Nobuo <b>Non-condensable gas effects on geothermal plants</b>		
09:30–09:50	Wiig, Linda <b>Microbial growth in membrane-based plants for rinsing of flue gas condensate</b>				
09:50–10:10	Thomsen, Karsten Normann <b>Review of experiences during the last decade on flue gas condensation and the re-use of the condensate</b>				
10:30–11:00	COFFEE BREAK				
11:00–12:20	<b>PCC7</b> <b>Flue Gas Condensation and Water Purification</b>	11:00–12:00	<b>PCAS3</b> <b>Thermodynamic and Transport Properties</b>		
11:00–11:20	Berg, Niklas <b>Design of a new plant for flue gas condensation and treatment of condensate based on 23 years of field experience</b>	11:00–11:20	Hoffert, Ulrike <b>A modified flow-through apparatus for high pressure viscosity measurements of salt solutions</b>		
11:20–11:40	Vuorinen, Jano <b>Experiences regarding treatment and reuse of flue gas condensate in waste incineration plant</b>	11:20–11:40	Yoshida, Ken <b>High-Temperature NMR and MD study on self-diffusion coefficients of water and cyclohexane in binary mixture in supercritical states</b>		
11:40–12:00	De Meyer, Evelyn <b>TOC composition more important than concentration in IEX demineralisation of different water qualities for the production of steam</b>	11:40–12:00	Akhmedova-Azizova, Lala <b>Measurements of the density, speed of sound, viscosity and derived thermodynamic properties of geothermal fluids from south Russian geothermal field</b>		
12:00–12:20	Dalsgaard, Thomas <b>Design considerations for UF filtration and demineralization of flue gas condensate for make-up water</b>				

12:20–13:00	<b>ICPWS17 CONFERENCE CLOSING</b>
13:00–14:00	LUNCH BREAK
15:00–19:00	<b>TECHNICAL TOURS</b> Subject of extra fee

IRS: Industrial Requirements and Solutions

PCAS: Physical Chemistry of Aqueous Solutions

PCC: Power Cycle Chemistry

SW: Seawater

SWW: Seawater Workshop

TPWS: Thermodynamic Properties of Water and Steam

This is a preliminary programme. More topics and full author lists including their affiliations will be provided in the final conference programme. Last but not least, our sponsors will be acknowledged in the final programme as well.