MONDAY 20 JUNE 2022

	Hall A	Hall B	Hall C
09:00-10:15	**Opening Ceremony**		
	Programme under development		
10:15-10:50	**Coffee Break**		
10:50-12:10	**Plenary Session** *Chair: Stuart Hamilton*		
10:50-11:10	**Moving From the Shadows – Putting Leakage Management Center Stage in Utility Management** Bill Kingdom — United Kingdom		
11:10-11:30	**Three decades of systematic decline of water losses in the Czech Republic** Michaela Vojtechovska Sramkova — Czech Republic		
11:30-11:50	**The water loss control program of Vitens in the Netherlands aiming to almost eliminate NRW in 2030 at the latest** Cor Merks — Netherlands		
11:50-12:10	**To boldly go.....** Jo Parker — United Kingdom		
12:10-13:30	**Lunch**		
13:30-15:00	**Customer Metering**	**Asset Management (1)**	**Leak Detection technologies, strategies, equipment (1)**
13:30-13:50	A.1.1 Analysis of the metrological performance in the field of residential solid-state water meters. **Francisco** **Arregui** Spain	B.1.1 The magnificent seven – challenges for the uptake of integrated multi-infrastructure asset management **Franz** **Tscheikner-Gratl** Norway	C.1.1 Achieving low level of real losses in DMAs with advanced continuous monitoring and specific UARL **Marco** **Fantozzi** Italy
13:50-14:10	★ A.1.2 Accuracy Comparison Between Mechanical and Ultrasonic Meters in Hai Al-Nasser in Amman, Jordan **Ghada** **Alqatarneh** Jordan	B.1.2 Water losses management in trunk mains: A Management Approach **Philippe** **Mappa** France	C.1.2 Leaks in Prague City and Satellite detection **Jan** **Kobr** Czech Republic
14:10-14:30	A.1.3 Development of a Water Meter Performance Database for South Africa **Mthokozisi** **Ncube** South Africa	B.1.3 Failure risk analysis for pipeline renewal prioritisation using non-invasive condition driven tools and technologies **Joseph** **Butterfield** United Kingdom	C.1.3 Leak detection using acoustics in intelligent water meters **Sune Hoveroust** **Dupont** Denmark
14:30-14:50	A.1.4	B.1.4 316 stainless partially corrugated tube vs polyethylene for service lines: a cost comparison **Benoit** **Van Hecke** Belgium	C.1.4 Temperature-based leak detection: a new way of finding leaks **Stephen** **Tooms** United Kingdom
14:50-15:00	**Q&A**	**Q&A**	**Q&A**
15:00-15:30	**Coffee Break**		
15:30-17:00	**Pressure Management (1)**	**Making your distribution system SMARTER!**	**Leak Detection technologies, strategies, equipment (2)**
15:30-15:50	★ A.1.5 Cost-benefit Analysis of a Hydraulic Flow Modulated Pressure Control Valve: Case from Oslo, Norway **Milna** **Mandusic** Norway	B.1.5 Self-Assessment Matrix for Water Systems Technical and Operational Performance **Bambos** **Charalambous** Cyprus	C.1.5 Large pipeline monitoring through inline Distributed Acoustic Sensing (DAS) **Edmund** **Riehle** Germany
15:50-16:10	A.1.6 Influence of changes in operating pressure on water consumption and water losses **Ladislav** **Tuhovčák** Czech Republic	★ B.1.6 "PORTO 100% TELEMETRY" – An integrated approach to an efficient management of the water supply system **Flavio** **Oliveira** Portugal	C.1.6 Pipe Condition Assessment Methodology through Acoustic Monitoring at SUEZ NJ by Aquarius-Spectrum **Danny** **Rosenbluth** Israel
16:10-16:30	★ A.1.7 Continuous multi-point pressure monitoring using an innovative pressure monitoring device **Kosei** **Nishida** Japan	B.1.7 Integration of Databases, Analytics, and Smart Water Balance of DMAs **Elio** **Arniella** USA	C.1.7 Satellite-based leak detection and cost benefit **Jurica** **Kovac** Croatia
16:30-16:50	A.1.8 A new slow transient pressure-dependent model to simulate background leakages and inertia **Camille** **Chambon** France	B.1.8 SmartFlow as a system for intelligent water supply network management. **Grzegorz** **Karlik** Poland	C.1.8 Remote correlating acoustic logger trials in Southern Water (UK) **Alan** **Cunningham** United Kingdom
16:50-17:00	**Q&A**	**Q&A**	**Q&A**

TUESDAY 21 JUNE 2022

	Hall A	Hall B	Hall C
08:30-10:00	**Innovative AI and Modeling Solutions**	**International Case Studies (1)**	**Leak Detection technologies, strategies, equipment (3)**
08:30-08:50	✶ Semantic Pipe Leakage Detection with FIWARE Smart City Platform A.2.1 **Michaela Leštáková** Germany	IoT cellular technologies take environmental monitoring by a storm: A European success story B.2.10 **U. Gutermann S. Fechter** Switzerland	Identifying the suitability of DMAs for leak localisation C.2.1 **Martijn Bakker** Netherlands
08:50-09:10	Trialling artificial intelligence to find leaks in Melbourne CBD A.2.1 **Stuart Stapely** Australia	Implementation of an advanced NRW and leakage management system in SmVaK Ostrava B.2.10 **Zdeněk Sviták** Czech Republic	✶ Pro-active leak management based on DMA fingerprints C.2.1 **Dries Verheyen** Belgium
09:10-09:30	✶ Reaching 8 % NRW through a smart infrastructure that meets the demands of the future A.2.2 **V. Pelin and S. Granath** Sweden	Transformation of India's Water Sector a case study B.2.2 **Krishnamurthy Ashok Natarajan** India	✶ A laboratory-based leak noise simulator for testing acoustic correlators C.2.2 **Mauricio Kiotsune Iwanaga** Brazil
09:30-09:50	Advance Warning From Advance Data: How to identify Pipeline Risk using Geospatial AI A.2.3 **Camilla Braithwaite** United Kingdom	✶ Applying downstream control to simulate continuous water supply under water shortage conditions B.2.3 **Ghada Alqatarneh** Jordan	✶ Application of Mobile Surveyors in the Management of Physical Losses in DMAs of Maputo, Mozambique C.2.3 **Anibal Colher** Mozambique
09:50-10:00	**Q&A**	**Q&A**	**Q&A**
10:00-10:30	**Coffee Break**		
10:30-12:00	**NRW data collection and tools for better decision making**	**Innovative models for leak location (1)**	**Performance indicators, benchmarking, target setting (1)**
10:30-10:50	Taking the V6 for a Test Drive: the New AWWA Free Water Audit Software is Here A.2.4 **Will Jernigan** USA	Cloud correlation: Is discontinuous AI built on verified data the no-regrets answer to water leakage? B.2.4 **N. Edwards J. Latif** United Kingdom	The organization and regulation of the water supply sector in selected EU countries, in the context of new water loss requirements C.2.4 **Klara Ramm** Poland
10:50-11:10	Frontier Analysis for the Assessment of Water Loss Performance and Reduction Potential A.2.5 **Alan Wyatt** USA	TWINETTM: Live operational modelling of distribution water networks B.2.5 **Jonathan Piveteau** France	A global SMART approach to efficiency in water utilities (from sensors to smart actions) C.2.5 **Pedro Perdigão** Portugal
11:10-11:30	Holistic approach in analysis of turn-around strategies for municipal water supply systems - perspectives of a financier A.2.6 **Konstant Bruinette** South Africa	Simulation model of water network: better understanding the system, and more comfortable work on projects B.2.6 **Lubomír Macek** Czech Republic	Leakage management benchmarking – a comparison of utility performance, investment, and best practices C.2.6 **Gary Wyeth** Thailand
11:30-11:50	Preparing for the Future of Water Loss in Southern Nevada A.2.7 **Drew Blackwell** USA	Hydro informatic tools for water loss reduction – use cases from the Czech Republic B.2.7 **Cecilia Wennberg** Sweden	A century of historical data for water balance and water loss PIs – a critical analysis of Bucharest water supply network C.2.7 **Alexandru Aldea** Romania
11:50-12:00	**Q&A**	**Q&A**	**Q&A**
12:00-13:30	**Lunch**		
13:30-15:00	**District Metered Areas (DMAs)**	**Innovative models for leak location (2)**	**Performance Based NRW Management Contracts (1)**
13:30-13:50	Establishment of measuring areas (DMA) on the water network operated by Szeged Waterworks Ltd. A.2.8 **Zoltán Istókovics** Hungary	Detection of emergent leaks using machine learning approaches B.2.8 **P. Głomb M. Gabryš** Poland	Outsourcing of NRW Reduction and Murphy's Law C.2.8 **J Dalton R Liemberger Ireland**
13:50-14:10	Modelling DMA metering accuracy to improve the water balance and prioritise meter replacements. A.2.9 **Mikal Willmott** United Kingdom	✶ A hybrid leak detection framework using variational autoencoder surrogates B.2.9 **Prasanna Mohan Doss** Norway	Performance based contracts in Portugal – contractual model and first results C.2.9 **Eduardo Barbot** Portugal
14:10-14:30	✶ Mobile DMA testing for leakage assessment: perspectives from Ontario, Canada A.2.10 **Bradley Jenks** United Kingdom	Real-world application of the dual model for model-based leak localization B.2.10 **David B. Steffelbauer** Norway	NRW PBCs - How to balance risks and incentives? C.2.10 **Bill Kingdom** United Kingdom
14:30-14:50	Virtual DMAs – are they virtually useless? A.2.11 **Dewi Rogers** Italy	**INTRODUCTION TO THE DISPLAYED POSTERS** B.2.11	Addis Ababa – the road to the Water Loss Reduction Performance-Based Contract C.2.11 **Ignacio M. Peña** South Africa
14:50-15:00	**Q&A**	**Q&A**	**Q&A**
15:00-15:30	**Coffee Break**		
15:30-16:40	**Smart water metering**	**Pressure Management (2)**	**Performance Based NRW Management Contracts (2)**
15:30-15:50	Benefits of a long-term metering strategy: case study of a middle sized water utility company A.2.12 **Filip Wanner** Czech Republic	✶ Can pressure management save Norwegian water distribution systems from excessive water losses? B.2.12 **Marius Møller Rokstad** Norway	A Bayesian learning methodology for leak reduction and control PBCs in cities C.2.12 **Clive Harrison** Gibraltar
15:50-16:10	✶ Minimum night flow and legitimate night consumption statistics using smart meter data A.2.13 **Jonas Kirstein** Denmark	✶ Intelligent pressure regulating vehicle construction and pressure management practice B.2.13 **Jianxun Chen** China	Performance Based NRW Management Contracts – Turnkey or Co-Management? C.2.13 **Paul Fanner** United Kingdom
16:10-16:30	Smart meter network (AMI) in medium size Polish town. Case study. A.2.14 **Wojciech Koral** Poland	Efficient management of vital water and energy resources B.2.14 **Milene Aguiar** Brazil	Measuring and Benchmarking NRW Performance for a Non-Technical People – A Case Study Applied on Jordan's Water Utilities C.2.14 **Bambos Charalambous** Cyprus
16:30-16:40	**Q&A**	**Q&A**	**Q&A**
17:00-18:00	**Open Meeting of IWA Waterloss Specialist Group: Activities, Initiative, Discussions**		

WEDNESDAY 22 JUNE 2022

	Hall A	Hall B	Hall C
08:30-10:00	**Performance indicators, benchmarking, target setting (2)**	**Dealing with Intermittent Water Supply**	**Asset Management (2)**
08:30-08:50	System Correction Factor for UARL in action in Europe, North America, Australia, UK and South Africa A.3.1 **Kate** **Stanton-Davies** United Kingdom	Intermittent water supply in the City of Freetown B.3.1 **Najeh** **Bouguerra** Tunisia	A method to predict pipe renewal impact on drinking water supply systems water losses C.3.1 **Eddy** **Renaud** France
08:50-09:10	The quest for the right water loss KPIs – ultimately a misunderstanding issue A.3.2 **Alexandru** **Aldea** Romania	Intermittent supply - managing air not water B.3.2 **Dewi** **Rogers** Italy	Preparation of an intelligent Asset Management Plan for better water management C.3.2 **Cor** **Merks** Netherlands
09:10-09:30	Influencing factors for water loss targets A.3.3 **Joerg** **Koelbl** Austria	★ Challenges in moving to 24x7 water supply in Vasto city, Italy B.3.3 **Annalisa** **Gaccione** Italy	Smart Water Main Inspection and Condition Assessment Using a Systematic Approach to Pipe Selection C.3.3 **Reza** **Moslemi** Canada
09:30-09:50	To ELL and Back A.3.4 **T Waldron** and **D Pearson** Australia	Study on effect of air under intermittent supply on measurement performance of three different type of customer meters B.3.4 **Phatta** **Thapa** Japan	DMA Characteristics on Risk and Asset Analysis of MWA Pipe Network C.3.4 **Manatsawee** **Nawik** Thailand
09:50-10:00	**Q&A**	**Q&A**	**Q&A**
10:00-10:30	**Coffee Break**		
10:30-12:00	**Financing and improvement of water utilities**	**NRW Strategy Design**	**Latest information on the NRW situation in the U.S.A.**
10:30-10:50	Structuring bankable NRW projects A.3.5 **Gregory** **Kpegli** USA	Impacts of demography on changes in water losses from drinking water networks B.3.5 **Eddy** **Renaud** France	Survey Says: Results of the 2021 AWWA TEC Survey of Governmental Water Loss Policies C.3.5 **Steve** **Cavanaugh** USA
10:50-11:10	New Investment and Business Models for Water Efficiency Projects A.3.6 **Noam** **Komy** Spain	As the River Flows: Catawba-Wateree's Innovative Model for Building Water Loss Control B.3.6 **Tory** **Wagoner** USA	Exploring the North American Water Audit Reference Dataset (WARD) C.3.6 **George** **Kunkel** USA
11:10-11:30	LEAK365: Full Scale Smart Water Leakage Management A.3.7 **Thorkil Bartholdy** **Neergaard** Denmark	Development of a System Management Leakage Plan B.3.7 **Gary** **Wyeth** Thailand	NAWL-Points-Bulletin: The North American Water Loss Report – 2021 Edition C.3.7 **Will** **Jernigan** USA
11:30-11:50	Achieving gold standard teams A.3.8 **Jo** **Parker** United Kingdom	Best Practice Techniques to Reduce Leakage in Urban and Rural DMAs B.3.8 **Tom** **Crowder** United Kingdom	California Real Loss Performance Targets - Ambitious or Nonsense? C.3.8 **R. Sturm** and **M.A. Dickinson** USA
11:50-12:00	**Q&A**	**Q&A**	**Q&A**
12:00-13:30	**Lunch**		
13:30-16:00	**Panel Discussion and Conference Closing**		
13:30-15:30		**Panel Discussion** Lessons learned at Water Loss 2022 and their immediate practical application: **Water Loss assessment and reduction in the EU and in California:** **Are the new Californian legislation and the new EU Water directive -** 1.) Useful and real steps forward? 2.) Ridiculous and impossible to be followed by the majority of water utilities? 3.) In principle okay, but need to be modified? **The conclusions of this discussion will form the basis of the "Prague Recommendations" which will be drafted by members of the WLSG**	
15:30-16:00	**Closing Session**		