

Physical and cyber safety in critical water infrastructure

NATO Advanced Research Workshop

Oslo, Norway. 8-11 October 2018

Agenda

Day 1: Monday 8th October 2018	
12:00	Arrival and lunch, Radisson Alna hotel Oslo
13:00	Lunch at Betula Restaurant, Radisson Alna hotel
	Session 1: Opening and introduction to the challenges, Moderator Prof Joachim Fettig, Germany
14:00	Welcome addresses: Prof. Øystein Johnsen, Pro-rector, Norwegian University of Life Sciences, Norway
14:08	Opening address: Prof. Oleksandr Pivovarov, Rector, Ukrainian State University of Chemical Technology, Dnipro, Ukraine
14:15	Objectives and organisation of the workshop, Prof. Harsha Ratnaweera, Norwegian University of Life Sciences, Norway
14:25	Importance of the cyber and physical security in water services. Prof. Kala Vairavamoorthy, Executive Director, International Water Association-IWA
14:40	Risks, resilience and cascade effects on water and wastewater systems. Prof Jose Saldanha Matos, President, European Water Association-EWA / Technical University of Lisbon
15:00	Cyber security – is it a concern for water utilities? Dr Jon Røstum, Chief Strategist, Powel AS, Norway
15:20	A vision: a secure, effective, and confident water sector, resilient to the ever-evolving cyber threat. Dr Jim Marshall, Senior Policy Adviser, Water UK.
15:40	Proactive Management Mechanisms for a Secure Water Future, Dr Vassilis Foteinos, WINGs ICT Solutions, Greece
16:00	Tea break
	Session 2: Cyber security in practice, Moderator Prof Ed McBean, Canada
16:20	Shaping tomorrow's cybersecurity landscape, Mark Smitham, Senior Manager of Cybersecurity Policy- Microsoft, Belgium
16:40	Strategic, Tactical, Operational Protection of water infrastructure against cyber-physical threat: STOP-IT Horizon 2020 project, Prof. Rita Ugarelli, SINTEF/Norwegian University of Science and Technology, Norway
17:00	Cyber security in small utilities. Christian Borge, Technical Manager, Beijer electronics AS, Norway
17:20	Cyber security – lessons learned from the energy sector. Mr Martin Wagner, Senior Consultant, Atos Research & Innovation, Spain
17:40	Novel Computer Vision and Machine Learning techniques for enhanced protection of water infrastructures, Dr David Ayala, National Technical University of Athens, Greece
18:00	Big Data in water quality surveillance: Ferrybox system. Dr Kai Sørensen, Research Manager, Norwegian Institute for Water Research, Norway
18:20	Discussion
18:40	Closure
19:30	Informal discussions & networking
20:00	Dinner, Betula Restaurant, Radisson Alna hotel

Day 2: Tuesday 9th October 2018	
07:00	Breakfast buffet, from 07:00
08:30	Check-out and departure from the hotel: Sightseeing in Oslo
10:45	Check in to the Color Magic ferry to Kiel, Germany; Cabin check in after 12:45
	Session 3: Surveillance and early warning systems, Moderator Prof Malik Zhekeyev, Kazakhstan
11:00	Radioactive Pollution of Water: Lessons Learned from Ukraine. Prof. Oleksandr Pivovarov, Rector, Ukrainian State University of Chemical Technology, Ukraine
11:15	Possible application of early warning system (EWS) in the regional water management planning, Prof Igor Cretescu, Technical University of Iasi, Romania and Dr Zsofia Kovacs, Associate Professor, Pannon University, Hungary
11:30	Direct-injection detectors: a novel approach to flow analysis for water quality monitoring, Prof. Slawomir Kalinowski, University of Warmia and Mazury, Poland
11:45	Remote surveillance and process control of wastewater treatment processes, Dr Nataliia Sivchenko, Project Engineer, DOSCON AS, Norway
	Session 4: Physical security in water infrastructure, Moderator Prof Viktor Moshynski, Ukraine
12:05	Flood and drought security in Belgium: climate impact and adaptation, Dr Vincent Wolfs, Postdoctoral researcher, KU Leuven, Belgium
12:25	Flood security strategy - case studies from Gdansk, Dr Andrzej Lewandowski, Senior Consultant, Danish Hydraulic Institute, branch office in Poland
12:45	Check in to cabins
13:00	Lunch at Oceanic à la carte Restaurant, Deck 6, aft
	Session 5: Preparedness to meet the challenges in the water sector. Moderator Prof Vlad Tarabara, USA
14:00	Overview: Preparedness in the European / German Water Supply Sector, Prof. Joachim Fettig, University of Applied Sciences Ostwestfalen-Lippe, Germany
14:20	Overview: Preparedness in the European/German sanitation and sewerage systems, Prof. Martin Oldenburg, University of Applied Sciences Ostwestfalen-Lippe, Germany
14:40	Cyber security preparedness in water utilities in the UK, Dr Jim Marshall, Senior Policy Adviser, Water UK
15:00	Overview of preparedness in the Norwegian water sector. Prof Lars Hem, Oslo Water / Norwegian University of Life Sciences, Norway
15:20	Water Critical Infrastructure preparedness in the Countries with Transition Economies, Dr Zakhar Maletskyi, Postdoctoral fellow, Norwegian University of Life Sciences, Norway
15:40	Preparedness in the water sector in Turkey, Ms Emel Tüfekçi, Director of Kağıthane Water Treatment Branch, Istanbul Water and Sewerage Directorate, Turkey
16:00	Tea break
	Session 6: Abatement – Technological solutions. Moderator: Prof. Martin Oldenburg, Germany
16:15	Reactive and Proactive Strategies for Physical Security Protection of Water Systems – examples from Canada, Prof. Ed McBean, University of Guelph, Canada
16:35	The local solutions for water security in Ukraine, Prof. Tetiana Mitchenko, Chairman, ECOSOFT Ltd/ National Technical University of Ukraine. Ukraine.
16:55	Examples of emergency water solutions for small communities, Mr Mathias Anderson,, Sales and Business Development Manager, A-Aqua AS, Norway
17:15	Hidden threats in centralized water supply and innovative methods of their overcoming. Prof Viktor Gevod, Ukrainian State University of Chemical Technology, Ukraine

17:35	Membrane technology as an approach to securing microbiological safety of water: From routine treatment to emergency management, Prof Vlad Tarabara, Michigan State University, USA
17:55	Discussion and plan for next day, Prof Harsha Ratnaweera, Norway
18:30	Dinner show and informal discussions; Show lounge in Fore, deck 7
20:30	Dinner, Restaurant Grand Buffet, Fore Deck 6

Day 3: Wednesday 10th October 2018

	Breakfast, any time between 07:00-09:45, Grand Buffet, Fore Deck 6
	Session 7: Group work
10:00	Visit to Kiel and group discussions
12:00	Group/Individual work on potential threats scenarios and best practices on surveillance and preparedness: Potential components for future project concepts
13:30	Lunch- snack at the meeting room,
	Session 8: Global processes in water security: Moderator, Prof. Tetiana Mitchenko, Ukraine
14:00	Global Water Security Architecture, Ms Carina Dios Falk, MSc student, Uppsala University, Sweden and University of Geneva, Switzerland
14:20	Water Safety Plans vs Water Security Plans. Prof. Harsha Ratnaweera, Norwegian University of Life Sciences.
14:40	Discussion
	Session 9: The way forward: Moderator Mr Luk Aerts, Belgium
15:00	Developing competitive project proposals on water security: Introduction to group work. Mr Luk Aerts, Belgium
15:20	Tea break, snack at the meeting room
15:30	Group work
17:00	Presentation of Group work
18:00	Conclusions from Group work, Mr Luk Aerts, Belgium/ Dr Zakhar Maletskyi, Norway
18:	Publication of materials of the workshop and beyond, Prof Vlad Tarabara, Michigan State University, USA
18:30	Closure of the workshop
19:00	Informal discussions on follow-up
20:30	Dinner, Oceanic à la carte Restaurant, Deck 6 Aft

Day 4: Thursday 11th October 2018

	Breakfast, any time between 07:00-09:45, Grand Buffet, Fore Deck 6
08:00	Breakfast discussions
10:00	Arrival in Oslo ferry terminal
12:00	Departures from the Oslo airport