European Monitoring Centre
for Drugs and Drug Addiction

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EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY

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Testing the Waters 2017

Wastewater-based epidemiology: current
applications and future perspectives

3rd international conference

26–27 October 2017
Lisbon Congress Centre, Lisbon

Thursday 26 October 2017	
09.30	Registration opens
10.00	**COST Action ES1307–Sewage biomarker analysis for community health assessment: Presentation of results (Open pre-meetings)**
10.00	Overview of results WG1 – Sewage biomarkers analysis: methods and technology — Lubertus Bijlsma, Spain (WG chair)
10.45	Coffee break
11.00	Overview of results WG2 – Innovative techniques for community health assessment — Alexander van Nuijs, Belgium (WG chair)
11.30	Overview of results WG3 – Integration with epidemiology and social sciences — Malcolm Reid, Norway (WG chair)
12.00	Lunch break
	Conference opening
13.00	Opening session
13.05	The role of wastewater based epidemiology for European drug monitoring: lessons learned and future challenges — Paul Griffiths, EMCDDA
	Plenary session 1 **Routine monitoring of drugs in wastewater: state of the art**
13.15	**Wastewater-based epidemiology and its practical implications in Finland — Teemu Gunnar, Finland** (keynote speaker)
13.50	The challenges of performing large-scale multi-city wastewater-based epidemiology studies — Kevin Thomas, Australia
14.10	Do environmental conditions in sewers influence drug consumption estimates in my catchment? — Christoph Ort, Switzerland
14.30	Wastewater-based epidemiology: a practical application of sewage analysis to back-calculate heroin consumption in Switzerland — Robin Udrisard, Switzerland
14.50	Methadone maintenance programs and wastewater biomarkers assessment in the city of Lisbon and major suburban regions — Álvaro Lopes, Portugal
15.10	The impact of a major music festival and tourist season on the drug, alcohol and tobacco consumption in a Croatian coastal city — Senka Terzic, Croatia
15.30	Coffee break
	Plenary session 2 **Building bridges over troubled water – combining wastewater with other data sources**
16.00	**Using multiple data sources including wastewater analysis to understand a local drug market — Frank Zobel, Switzerland** (keynote speaker)
16.30	The forensic side of wastewater based epidemiology — Erik Emke, the Netherlands
16.50	An ecological study into the amounts of methamphetamine in wastewater versus hospitalizations due to psychosis in a catchment area — Jørgen G. Bramness, Norway
17.10	Association between purity of seized drugs with their daily loads measured in wastewater in an Australian catchment from 2010-15 — Pong Thai, Australia
17.30	Investigating new psychoactive substances (NPS) among nightlife populations in New Zealand using urinal analysis and a short survey — Chris Wilkins, New Zealand
17.45	Correlation of wastewater and forensic samples: Investigating the temporal use of new psychoactive substances in South Australia — Richard Bade, Australia
18.00	End of the first day
20.00	Conference dinner

Friday 27 October 2017	
	Plenary session 3 **Future perspectives: new applications of wastewater-based epidemiology**
9.00	**Application of wastewater-based epidemiology in China – from wastewater monitoring to drug control efforts — Xiqing Li, China** (keynote speaker)
9.30	Using wastewater as a tool to understand legalized retail sales effects on cannabis consumption in Washington State, US — Dan Burgard, United States
9.50	Exposure to phthalate plasticizers assessed by wastewater analysis — José Benito Quintana, Spain
10.10	A new analytical strategy to evaluate community-wide exposure to endocrine disrupting chemicals in personal care products — Luigi Lopardo, United Kingdom
10.30	Evaluating population exposure to food contaminants through wastewater-based epidemiology: pesticides and mycotoxins as pilot studies — Sara Castiglioni, Italy
10.50	Monitoring genetic population biomarkers for public health with community sewage sensors — Zhugen Yang, United Kingdom
11.10	Coffee break
11.30	Upscaling human biomonitoring – wastewater-based epidemiology to assess exposure to organophosphate flame retardants — Frederic Been, Belgium
11.50	Quantitative proteomics for molecular diagnostics of public health: the quest for biomarkers of infectious disease — Jack Rice, United Kingdom
12.10	Assessing population exposure to tobacco-specific toxicants and carcinogens using wastewater-based epidemiology — Foon Yin Lai, Belgium
12.30	Screening new psychoactive substances in urban wastewater from different European countries — Noelia Salgueiro-Gonzalez, Italy
12.50	Lunch break
13.00	**Poster session (poster prize)**
	Plenary session 4 **Addressing the key scientific issues – technical advances in wastewater-based epidemiology**
14.00	Six years of interlaboratory ring-test exercises for the analysis of illicit drugs in wastewater – What have we learnt? — Alexander Van Nuijs, Belgium
14.20	Spatial differences in illicit drug use in Australia's capital and regional areas; initial results from the National Wastewater Drug Monitoring Program — Ben Tscharke, Australia Anabasine and anatabine are suitable markers of tobacco smoking' — Gerber Cobus, Australia
14.50	Assessment of MDMA consumption in three European cities from the analysis of its metabolites in wastewater — Iria González-Mariño, Spain
15.10	Harnessing the Australian Census to identify population and demographic markers for wastewater-based epidemiology — Jake O'Brien, Australia
15.30	Coffee break
15.50	The use of mobile-device-based mobility patterns to determine dynamic population normalised drug loads for wastewater-based epidemiology — Josè Baz-Lomba, Norway
16.10	Degradation of alcohol and tobacco consumption biomarkers in a real sewer — Jianfa Gao, Australia
16.30	Establishing a wastewater drug analysis laboratory in the greatest metropolis of Turkey: Preliminary results from Istanbul — Mercan Selda, Turkey
16.45	Occurrence of controlled illicit drugs and new psychoactive substances in raw wastewater samples from Athens, Greece, analyzed by LC-QTOF-MS — Kostantina Diamanti, Greece
17.00	Best young researchers platform and poster prize awards
17.10	Conference closing

Posters	
Kang Mao, China	A novel colorimetric biosensor for methamphetamine detection
Frederic Been, Belgium	Methamphetamine pyrolysis byproducts in wastewater – A way of distinguishing administration routes?
Meena Yadav, Australia	Occurrence of illicit drugs in aqueous environment and removal efficiency of wastewater treatment plants
Anne Bannwarth, Switzerland	The analysis of illicit drugs in Sydney wastewater
Erika Castrignanò, United Kingdom	Wastewater-based epidemiology as a powerful tool for helping to tackle antibiotic resistance
Lisa Jones, Ireland	Occurrence of phthalates in Irish wastewater
Jelena Radonić, Serbia	Levels of EDCs in Danube surface water in Novi Sad, Serbia. Is there a parallel with human obesity incidence?
Francesco Riva, Italy	Assess the adherence to the pharmacological therapy: a wastewater-based epidemiology approach
Iria González-Mariño, Spain	Multi-residue determination of psychoactive pharmaceuticals, illicit drugs and related metabolites in wastewater by ultra-performance liquid chromatography-tandem mass spectrometry
Marie Mardal, Denmark	Metabolism of the synthetic cannabinoids AB-CHFUPYCA and 5C-AKB-48 in freshly isolated rat hepatocytes and pooled human hepatocytes analyzed by UHPLC-ion mobility-qTOF
Jose Antonio Baz-Lomba, Norway	From cartridge to micro-plate: A high-throughput solid-phase microextraction and pre-column dilution large volume injection method for wastewater-based epidemiology
Alberto Celma, Spain	Investigation of New Psychoactive Substances in human urine: an analytical approach for finding potential biomarkers of NPS for wastewater analysis
Peng Du, China	Trends in methamphetamine and ketamine use in major Chinese cities from 2012 to 2016
Ben Tscharke, Australia	Wastewater analysis during a popular school-leaver festival in South Australia
Ana Causanilles, the Netherlands	Wastewater-based tracing of doping use by general population and amateur athletes
Zeqiong Xu, China	Concentration and enantiomeric profiling of ketamine and norketamine in urine, wastewater and receiving water
Mário Dias, Portugal	UPLC-MS/MS analysis of illicit drugs in wastewater in the city of Lisbon and Almada between 2014-2016
Dan Burgard, United States	Revised cannabis correction factor for back-calculation: a broader picture
Herbert Oberacher, Austria	Drug use in the Austrian city Innsbruck monitored by wastewater analysis
Natalie Sims, United Kingdom	A novel route for determining public health: analysis of oxidative stress biomarkers in wastewater
Pedram Ramin, Denmark	Modelling illicit drug fate in sewers for wastewater-based epidemiology?
Lisa Benaglia, Switzerland	Assessing the representativeness of a population equivalent: case of ammonium
Ester López García, Spain	Assessment of illicit drug and alcohol use in the city of Barcelona through a wastewater-based epidemiology approach