

## Wednesday 30 October 2019

<b>8:30-9:00</b>		Opening	
<b>Session 1</b>		<b>Wastewater-based epidemiology-past development and future perspectives</b>	
<b>Talk 1</b>	9:00-9:30	Wastewater-based epidemiology: past, present and future	Ettore Zuccato, Italy (invited)
<b>Talk 2</b>	9:30-9:50	Future perspectives for wastewater-based epidemiology: Testing urban water for community-wide public health assessment	Adrian Covaci, Belgium
<b>Talk 3</b>	9:50-10:10	Reflections on a decade of wastewater-based epidemiology in Australia	Jochen Mueller, Australia
<b>10:10-10:30</b>		Coffee break	
<b>Session 2</b>		<b>Government funded WBE programs</b>	
<b>Talk 4</b>	10:30-11:00	Application of wastewater-based epidemiology in drug trends monitoring index system in China	Zhendong Hua, China (invited)
<b>Talk 5</b>	11:00-11:20	Trends in stimulant drug use in Finland	A Kankaanpää, Finland
<b>Talk 6</b>	11:20-11:40	Downstream benefits of a national government funded wastewater program	S Neilson or A Migus, Australia
<b>Talk 7</b>	11:40-12:00	New Zealand national wastewater monitoring programme-challenges, successes and initial results	Andrew Chappell, New Zealand
<b>12:00-13:30</b>		Lunch break	
<b>Session 3</b>		<b>Refining WBE methodology</b>	
<b>Talk 8</b>	13:30-14:00	Consumed or fly-tipped? Can drug biomarker residues in wastewater originating from consumption be distinguished from dumped chemicals?	Pim de Voogt, Netherlands
<b>Talk 9</b>	14:00-14:20	Characterization of wastewater treatment plant catchment populations for wastewater-based epidemiology	Ben J Tscharke, Australia
<b>Talk 10</b>	14:20-14:40	Refining the excretion factor of ketamine for wastewater-based epidemiology estimation - Combining pharmacokinetic and wastewater data	Peng Du, China
<b>Talk 11</b>	14:40-15:00	Comprehensive evaluation of illicit drugs stability based on measurements in laboratory reactors and a pilot-scale sewer system	Jiaying Li, Australia
<b>Talk 12</b>	15:20-15:40	Suspected and non-target screening combined to linear and non-linear distance measures to detect MDMA and amphetamine synthesis markers in wastewater	Frederic Béen, Netherlands
<b>15:40-16:00</b>		Coffee break	

<b>Session 4</b>		<b>Monitoring other psychoactive substances in wastewater</b>	
<b>Talk 13</b>	16:00-16:30	Monitoring drug use in Europe: where does wastewater-based epidemiology fit?	João Martias, EMCDDA (Invited)
<b>Talk 14</b>	16:30-16:50	Determining the occurrence of novel psychoactive substances in Australia using wastewater analysis	Richard Bade, Australia
<b>Talk 15</b>	16:50-17:10	Assessing pattern of use of new psychoactive substances (NPS) in the population-The NPS Euronet project	Sara Castiglioni, Italy
<b>Talk 16</b>	17:10-17:30	Development, validation and application of bioanalytical assays to detect and quantify biomarkers for psychoactive pharmaceuticals in influent wastewater	Tim Boogaerts, Belgium
<b>Talk 17</b>	17:30-17:50	Unknown-unknown screening of wastewater by UHPLC-HRMS System	Kenneth Chow, Singapore

## Thursday 31 October 2019

<b>Session 5</b>		<b>WBE monitoring around the globe</b>	
<b>Talk 18</b>	8:30-9:00	Current status and future implications of wastewater-based epidemiology in the USA	Bikram Subedi, USA (Invited)
<b>Talk 19</b>	9:00-9:20	The application of wastewater based epidemiology for local municipalities to investigate drug consumption rather than using the national figures	Erik Emke, Netherlands
<b>Talk 20</b>	9:20-9:35	Illicit drug consumption of Istanbul from 14 WWTPs in the city	Selda Mercan, Turkey
<b>Talk 21</b>	9:35-9:50	Making sense of drug levels in wastewater from Industrial sites	Cobus Gerber, Australia
<b>Talk 22</b>	9:50-10:05	Estimation of alcohol and tobacco intake in limited population in the Moscow region from wastewater analysis	V.V. Rozhanets, Russia
<b>Talk 23</b>	10:05-10:20	Estimation of community drug abuse in the Reykjavik metropolitan area by wastewater analysis	A.S.C. Löve, Iceland
<b>10:20-10:40</b>		Coffee break	
<b>Session 6</b>		<b>Advanced wastewater monitoring approaches</b>	
<b>Talk 24</b>	10:40-11:00	Real Real-time measurements of illicit drugs in wastewater- a pipe dream or useful reality?	Christoph Ort, Switzerland
<b>Talk 25</b>	11:00-11:20	Developing a national wastewater monitoring program to coincide with a population census: a case study using the Australia census and the potential implications for population health	Jake W O'Brien, Australia
<b>Talk 26</b>	11:20-11:40	Low-cost and rapid sensors for profiling sewage for public health assessment	Zhugen Yang, UK
<b>Talk 27</b>	11:40-12:00	In situ active sampling to assess community exposure using wastewater-based epidemiology	Joshua C Steele, USA
<b>12:00-13:00</b>		Lunch break (Poster session)	
<b>Session 7</b>		<b>WBE in a broader context</b>	
<b>Talk 28</b>	13:00-13:30	Triangulating survey and wastewater-based epidemiology to better measure community drug use	Jason Ferris, Australia (Invited)
<b>Talk 29</b>	13:30-13:50	Wastewater-based epidemiology combined with law enforcement and forensic toxicological data: better cross-governmental policies and more accurate picture on drug use	Teemu Gunnar, Finland
<b>Talk 30</b>	13:50-14:10	Appetite-suppressant, anesthetic, hypnotic and illicit drugs in the wastewater treatment plant, and their estimated consumption rates in Korea	KY Kim, Korea
<b>Talk 31</b>	14:10-14:30	Identification and analysis of water-borne human nutritional biomarkers to assess population nutritional status	DA Bowes, USA
<b>Talk 32</b>	14:30-14:50	Social, economic and demographic correlates of chemical consumption and diet identified by wastewater-based epidemiology	Phil M Choi, Australia

<b>Talk 33</b>	14:50-15:05	Estimating population consumption to areca nut in major Chinese cities through wastewater-based epidemiology	Hongmei Huang, China
<b>Talk 34</b>	15:05-15:20	Assessing the trend of diabetes mellitus by analysis of metformin as a biomarker in wastewater	Y Xiao, China
<b>OPEN FORUM</b>	15:20-15:50	PANEL DISCUSSION	Moderated by Adrian Covaci and Sara Castiglioni
<b>15:50-16:00</b>		Closing	
<b>After 16:00</b>		Tour: Ancestral Temple and Lingnan Tiandi	

## Poster session

Number	Title	First Author
P01	The application of wastewater-based epidemiology to monitor illicit drug and alcohol consumptions in Lithuanian communities	A L.N. van Nuijs
P02	Licit and illicit drug consumption among school children and students in Slovenia: a wastewater-based epidemiological approach	T Verovšek
P03	Towards establishing population markers in wastewater in the United States	DA Burgard
P04	Modeling wastewater temperature and attenuation of sewage-borne biomarkers globally	Olga E Hart
P05	Transferring technology from academia to the marketplace: the Aquavitas case study	AJ Gushgari
P06	Tracking chemical and biological hazards nationally and globally using the human health observatory (HHO)	RU Halden
P07	Expanding wastewater-based epidemiology by using glucocorticoid hormones to assess population stress	EM Driver
P08	Declining trend in consumption of methamphetamine in China by wastewater-based epidemiology	XT Shao
P09	Wastewater-based epidemiology as complementary data source in drug utilization research: state-of-the-art and future perspectives	T Boogaerts
P10	The transportation behavior of illicit drug users from different regions to the capital of China using wastewater-based epidemiology	Shang Zhao
P11	Challenges, limitations and possibilities for the screening of new psychoactive substances in wastewater	L Bijlsma
P12	Spatial distribution and consumption patterns of illicit drugs in Guangdong province, China by wastewater analysis	K Yuan
P13	Integrating wastewater-based epidemiology into adolescent education to improve community health	DA Bowes
P14	A paper-microfluidic electrochemical aptamer sensor for rapid detection of antibiotics in water	Yuwei Pan
P15	Using participatory research to develop an online WBE dashboard to address the United States opioid epidemic	JC Steele
P16	Estimating population exposure to phthalate esters in major Chinese cities through wastewater-based epidemiology	Peng Du
P17	Monitoring methadone and other opioids use in major Chinese cities by wastewater-based epidemiology	Peng Du
P18	Assessing alternative population size proxies in a wastewater catchment area using mobile device data	JA Baz-Lomba

<b>P19</b>	Estimating the level of drinking and smoking in major cities of China in 2014 and 2016 using wastewater-based epidemiology	J Gao
<b>P20</b>	Estimating the level of illicit drug use in Hanoi: a preliminary study using wastewater-based epidemiology	P Thai
<b>P21</b>	Assessing the impact of in-sewer degradation of biomarker to the final alcohol consumption estimates: a case study	Q Zheng
<b>P22</b>	Monitoring drug, alcohol and nicotine consumption by using wastewater-based epidemiology: Turkey model	N Daglioglu
<b>P23</b>	Refining the excretion factor of prescription drugs by analyzing mass load of biomarkers in wastewater and prescription statistics	Jianfa Gao
<b>P24</b>	Monitoring the life habits of Istanbul: caffeine, nicotine and alcohol	Merve Kuloglu
<b>P25</b>	Estimation the decaying of four potential drug-indicators for high incidences in water	Ping Li
<b>P26</b>	Monitoring of ethyl sulfate (ETS) in wastewater samples for estimation of alcohol consumption in Adana, Turkey	EY Guzel
<b>P27</b>	Reduction in methamphetamine consumption trends from 2015 to 2018 detected by wastewater-based epidemiology in Dalian, China	Z Wang
<b>P28</b>	Novel colorimetric sensors for duplexed detection of methamphetamine and cocaine using non-aggregated nanoparticles	Kang Mao