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PROGRAMME

# Fourth international conference on novel psychoactive substances

30–31 May 2016  
Budapest, Hungary

### **Organising committee**

Dr Ornella Corazza, University of Hertfordshire

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Professor Giuseppe Bersani, Sapienza University of Rome

Professor Zsolt Demetrovics, Eötvös Loránd University

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Professor Andy Parrott, Swansea University

### **Online streaming**

Billy Liu, University of Hertfordshire

Cheri Hunter, University of Hertfordshire

Kathryn Blay, University of Hertfordshire

### **Conference website**

[www.novelpsychoactivesubstances.eu](http://www.novelpsychoactivesubstances.eu)

### **Venue**

Hotel Benczúr, Budapest

[www.hotelbenczur.hu/en](http://www.hotelbenczur.hu/en)

## Fourth international conference on novel psychoactive substances

Over the last decade, there has been a dramatic increase in the number of new drugs reported across the world. In Europe, around two new psychoactive substances (NPS) are detected every week on the drug market: in 2015, almost 100 new substances were reported for the first time. The EMCDDA, through the EU Early Warning System, now monitors more than 560 new substances, with over 70 % of these identified in the last five years. It is worthy of note that there are now more than twice as many new substances on the market as drugs controlled under the international drug control conventions.

This phenomenon is due to a significant shift in the way in which drugs can now be manufactured, marketed and sold, driven by rapid changes in technology and by globalisation. Many of the NPS on the market in Europe today are sold openly as 'legal' replacements for cannabis, heroin, cocaine, amphetamines, LSD and MDMA. For many of these, and thousands more, the blueprints and recipes of how to make them, as well as the chemicals required, can be found in the scientific and patent literature.

Entrepreneurs, and, increasingly, criminal groups, have realised that new substances often sit in a legal grey area. They check drug laws to ensure that the substances are not controlled — even going as far as to seek expert legal advice. They then use this catalogue of substances and embrace mainstream marketing techniques, making potent drugs 'ordinary commodities'. As a result, not only has there been a huge increase in the number of these substances on the market, but also in their availability and in the types of substances and products sold.

The contemporary NPS market represents a game changer for the established business model of illicit drugs. The availability of potent new substances is no longer limited to clandestine production or the diversion of medicines, although these do remain an important part of the overall market. Now, a vast range of substances can be made on a large scale by legitimate chemical companies in China and India, rapidly shipped to Europe, packaged into products — 'legal highs', 'research chemicals' and 'food supplements' — and then sold 'off the shelf' in the high street, on the web, or directly on the illicit drug market.

There is now strong evidence that some new substances are causing a wide range of serious harms in Europe, including acute poisonings — as seen in presentations to hospital emergency departments — and death. There is also evidence that new substances are driving changes in the patterns of drug injection in some countries, a development which is particularly evident with some new stimulants. These changes have been linked to serious drug-related infectious diseases, such as HIV and hepatitis C, as well as bacterial infections. In some cases, these have manifested themselves as outbreaks which can place substantial demands on healthcare.

The grey legal nature of the NPS trade, along with its globalised nature, presents a range of challenges to drug policy and how we respond to this issue in order to reduce harm and protect public health. Such a phenomenon highlights the need for multi-disciplinary and multi-national collaboration in order to enhance knowledge, strengthen the quality of information sharing and promote best practice.

The aim of this NPS conference series, started in 2012, is to provide a forum that fosters such collaboration. It is hoped that the conference will help increase our understanding of the nature and effects of NPS, as well as promote innovative strategies to reduce related harms to society.

## **| Objectives**

- Sharing accurate, evidence-based information on NPS and latest trends in use;
- Improving understanding of treatment and management approaches for patients with levels of clinical and/or behavioural toxicity associated with NPS use;
- Assessing psychiatric consequences of NPS use and related behavioural addictions;
- Developing innovative prevention measures especially for vulnerable individuals;
- Raising awareness and contributing to the development of effective prevention messages;
- Exploring socio-cultural factors underlying risky behaviours;
- Contributing to the development of an international platform and other technological solutions for rapid information sharing;
- Defining new strategies to prevent the diffusion of NPS;
- Improving understanding of NPS markets;
- Improving understanding of responses to NPS, including policy and legislation;
- Networking and providing the opportunity to meet renowned experts in the field.

## Plenary sessions

Monday 30 May 2016	
Plenary session I: New psychoactive substances in perspective	
Chairs: Roumen Sedefov, EMCDDA and Ornella Corazza, University of Hertfordshire	
11.00	Opening and welcome — Roumen Sedefov, Ornella Corazza, Olivier Rabin and Zsolt Demetrovics
11.10	How NPS changed the way we understand and respond to drugs — Roumen Sedefov and Paul Griffiths, EMCDDA
11.30	NPS emergence, challenges and trends: the global perspective — Justice Tettey, Global SMART Programme, UNODC
11.50	Prohibited substances in sports: emphasis on counterfeit and illegal drugs of abuse — Olivier Rabin, WADA
12.10	NPS in Hungary: a historical overview — Zsolt Demetrovics, Eötvös Loránd University and Máté Kapitány-Fövény, Semmelweis University and the Nyíró Gyula Hospital Drug Outpatient and Prevention Center, Hungary
12.30–14.00	<i>Lunch, networking and first poster session</i>
Plenary session II: A plethora of complex challenges	
Chairs: Roumen Sedefov and Michael Evans-Brown, EMCDDA	
14.00	Case reports of designer opioids in post-mortem forensic toxicology casework — Barry Logan, Center for Forensic Science Research and Education, United States
14.15	The effects of synthetic cannabinoids on executive function and related brain activity in fMRI — Aviv Weinstein, University of Ariel, Israel
14.30	Impact of increasing NPS injecting combined with weakening responses: infections and risk behaviours in Hungary — Anna Tarján, Hungarian Reitox national focal point, Hungary
14.45	Does a legal market for synthetic cannabinoid products displace the black market for natural cannabis? — Chris Wilkins, Massey University, New Zealand
15.00	The damaging effects of MDMA (ecstasy), mephedrone (m-cat) and cannabis (including spice): a comparative overview — Andy Parrott, United Kingdom
15.15	Q&A
15.30–16.30	<i>Break, networking and second poster session</i>
16.30–18.30	Parallel sessions

## Parallel sessions

### Parallel session I: Human enhancement drugs

**Chairs: Michael Evans-Brown, EMCDDA and Ornella Corazza, University of Hertfordshire**

16.30	Pharma-terrorism: the use of captagon during civil conflict and terrorist attacks — Ahmed Al-Imam, Al-Nahrain University, Iraq
16.45	Living limitless: knowledge and use of cognitive enhancers in a sample of university students in Italy — Rita Santacroce, University of Chieti-Pescara, Italy
17.00	Novel psychoactive substance use, prescription drug abuse and internet drug purchasing in individuals with eating disorders — John Roche, University College London, and Vanessa Huke, University of Birmingham, United Kingdom
17.15	The use of substances to reach fitness goals in the United Kingdom — Roisin Mooney, University of Hertfordshire, United Kingdom
17.30	The link between orthorexia nervosa and the use of weight loss pills: preliminary findings of the 'Keep Fit Study' — Lili Rácmolnár, Eötvös Loránd University, Budapest, Hungary
17.45	A netnographic investigation into the female use of CJC-1295, a synthetic growth hormone — Evelyn Hearne, Waterford Institute of Technology, Ireland
18.00	'Yellow fever' in bodybuilding: the rebound of 2,4-dinitrophenol (DNP) as a weight-loss aid — Andrea Petróczi, University of London, United Kingdom
18.15	Beauty in the eye of a needle: the normalisation of injecting image and performance enhancing drug (IPED) use in the general population — Rebekah Brennan, Waterford Institute of Technology, Ireland

### Parallel session II: New approaches to detecting and characterising NPS

**Chairs: Osquel Barroso, WADA and Professor Magi Farré, IMIM, Barcelona**

16.30	Cloud spectroscopy for identification and monitoring of NPS and beyond — Claude Guillou, European Commission, Joint Research Centre (JRC), Italy
16.45	'Synthesise, Characterise, Analyse (SCA)': a multi-disciplinary approach to tackling new psychoactive substances (NPS) — Gavin McLaughlin, Athlone Institute of Technology, Ireland
17.00	Identification of new psychoactive substances using Raman spectroscopy: handheld and computational approaches — Amira Guirguis, University of Hertfordshire, United Kingdom
17.15	Simultaneous identification and quantification of new psychoactive substances in blood by GC-APCI-QTOFMS coupled to nitrogen chemiluminescence detection without authentic reference standards — Samuel Mesihää, Department of Forensic Medicine, University of Helsinki, Finland
17.30	Chemical evaluation of internet products containing new psychoactive substances to investigate supply/distribution chains — Jesus Calvo-Castro, University of Hertfordshire, United Kingdom
17.45	Legislation and chemistry: challenges brought by NPS — Helena Gaspar, Faculdade de Ciências da Universidade de Lisboa, Portugal

**Parallel session III: The epidemiology of NPS: what can we learn from forensic science, drug testing services and wastewater analysis?**

**Chairs: Barry Logan, Center for Forensic Science Research and Education and Robert Chilcott, University of Hertfordshire**

16.30	Forensic chemical analysis of new psychoactive substances in seizures — trends and issues in Hungary — Tamás Csesztregi, Hungarian Institute for Forensic Sciences, Drug and Arson Investigation Department, Hungary
16.45	A 10-year follow-up on new psychoactive tryptamines: deliverance and results of analysis — Álvaro José Palma Conesa, Institut de Neuropsiquiatria i Addiccions, Parc de Salut Mar, Barcelona, Spain
17.00	The future of new para-substituted cathinones like 4-CMC (clephedrone) and 4-BMC (brepheдрone) is still open — Marc Grifell Guàrdia, Hospital del Mar Research Institute, Spain
17.15	The evolution of novel psychoactive substances in Spanish recreational settings: type of substances consumed and trends detected after 10 years of monitoring — Mireia Ventura, Energy Control, ABD, Spain
17.30	Hair-based rapid monitoring for multiple drugs: application to an online theory-based health behaviour intervention for new university students — Declan P. Naughton, Kingston University of London, United Kingdom
17.45	Wastewater analysis reveals long-term trends and patterns of use of novel stimulants — Jason White, University of South Australia, Australia
18.00	Hair analysis as a tool to investigate the prevalence of new psychoactive substances in selected populations — Enrico Gerace, Centro Regionale Antidoping 'A. Bertinaria', Italy
18.15	Mapping of the new psychoactive substances — József Csorba, Hungarian Interchurch Aid, Addiction Centre, Hungary

**Parallel session IV: Identifying and understanding the harms of NPS: what can non-clinical data tell us?**

**Chairs: Claude Guillou, EC JRC and Giovanni Martinotti, University of Chieti-Pescara**

16.30	Effect of AKB48 and 5F-AKB48 on 'tetrad', sensorimotor and neurological responses in mice. <i>In vitro</i> and <i>in vivo</i> pharmacological studies — Matteo Marti, University of Ferrara, Italy
16.45	Comparable neurochemical effects of 6-(2-aminopropyl)benzofuran and 3,4-methylenedioxymethamphetamine in rat frontal cortex <i>in vivo</i> — Alan Hudson, University of Alberta, Canada
17.00	Pharmacokinetic, behavioural, hyperthermic profile and LD <sub>50</sub> of 5,6-methylenedioxy-2-aminoindane (MDAI) — Tomas Palenicek, National Institute of Mental Health, Czech Republic
17.15	Synthetic cannabinoids cause adverse neuropsychiatric symptoms via 5-HT <sub>2A</sub> receptors — David M. Benjamin, Northeastern University School of Pharmacy, Department of Pharmaceutical Sciences, Boston, United States
17.30	Evaluation of <i>in vitro</i> cytotoxicity of selected pyrovalerone derivatives — Jakub Wojcieszak, Jolanta B. Zawilska, Medical University of Lodz, Poland
18.00	Methoxetamine: preclinical studies on behavioural induced effects and abuse liability — Liana Fattore, Institute of Neuroscience, National Research Council, Italy

## Plenary sessions

Tuesday 31 May 2016	
Plenary session III: New psychoactive substances: strengthening early warning and responses	
Chairs: Roumen Sedefov, EMCDDA and Sabrina Levissianos, UNODC	
9.00	The evolution of the EU Early Warning System: toxicovigilance at its heart? — Michael Evans-Brown and Ana Gallegos, EMCDDA
9.15	New drugs of abuse require new testing strategies — Anders Helander, Karolinska Institutet, Sweden
9.30	Proposal for an international knowledge-exchange network on novel psychoactive substances — Matthew Young, Canadian Centre on Substance Abuse, Canada
9.45	From club to clinic. What every clinician needs to know about novel psychoactive substances harms and treatment — Owen Bowden-Jones, Imperial College, United Kingdom
10.00	New psychoactive substances: current practices and challenges in responding to use and harms in various intervention settings — Alessandro Pirona, EMCDDA
10.15	Q&A
10.30–11.00	<i>Break</i>
11.00–13.00	Parallel sessions



## Parallel sessions

### Parallel session V: The epidemiology of NPS: from forensic toxicology to shoe leather epidemiology

**Chairs: Francesco Botrè, Sapienza University and David M. Benjamin, Northeastern University**

11.00	Forensic case of novel psychoactive substances — Eva Keller, Semmelweis University, Hungary
11.15	Novel psychoactive substances in the cause-of-death investigations — Pirkko Kriikk, National Institute for Health and Welfare, Finland
11.30	Medicine misuse, trends and challenges: results from an online cross-sectional survey with users of codeine — Andreas Kimegård, King's College London, United Kingdom
11.45	Mephedrone: exploring reasons for use and user typologies using a mixed methods approach — Zoe Davey, Institute of Psychiatry, Psychology and Neuroscience, King's College London, United Kingdom
12.00	The situation of Turkey and new psychoactive drugs — Nevzat Alkan, Istanbul University, Turkey
12.15	The characteristics of deaths involving kratom in the United Kingdom and elsewhere — John Corkery, University of Hertfordshire, United Kingdom
12.30	Exploring kratom use in Western countries — Eduardo Cinosi, University of Chieti-Pescara, Italy
12.45	Trends of kratom ( <i>Mitragyna speciosa</i> ) use in Southeast Asia — Darshan Singh, Centre for Drug Research, Universiti Sains Malaysia, Malaysia

### Parallel session VI: Understanding the market and policy response to NPS

**Chairs: Matthew Young, CCSA and Andres Roman-Urrestarazu, London School of Economics**

11.00	The new NPS legislation in the UK from a broader EU perspective: harmonising policy and practice — Andres Roman-Urrestarazu, London School of Economics, United Kingdom
11.15	Exploring the arrest and novel psychoactive substance relationship: observations from a young adult population — Bryan Lee Miller, Georgia Southern University, USA
11.30	NPS on the net: producers, importers, dealers and consumers — Levente Móró, University of Turku, Finland
11.45	Changes in the composition of 'legal highs' after the last Polish drug law amendment — Bogumila Byrska, Institute of Forensic Research in Krakow, Poland
12.00	New psychoactive substance trends in the United States changes — Emily K Dye, US Drug Enforcement Administration, United States
12.15	One atom away from jail — João Rodrigues, Laboratório de Polícia Científica, Polícia Judiciária, Portugal
12.30	NPS regulation — Running on the old treadmill, or designing a new concept and strategy? Kalman Szendrei, University of Szeged, Hungary

### Parallel session VII: Understanding users of NPS

**Chairs: Andy Parrott, Swansea University and Marie Claire van Hout, Waterford Institute of Technology**

11.00	A phenomenological study of dependent user experiences of withdrawal from herbal smoking mixtures — Marie Claire van Hout, Waterford Institute of Technology, Ireland
11.15	Risks and harms of NPS from the user's perspective and regional differences in prevalence: social research results from Germany — Bern Wersé, Goethe University, Germany
11.30	Constructions of recreational drug use in online discussions — Tanja Banerji, University of Oslo, UiT Arctic University of Norway, Norway
11.45	Typology and motives of use of new psychoactive substances based on survey and online forum analysis within the project I-TREND — Dorota Wiszejko-Wierzbička and Michał Kidawa, University of Social Sciences and Humanities, National Bureau for Drug Prevention, Poland
12.00	Online survey for people who use new psychoactive substances in four countries — Piotr Salustowicz, University of Humanities and Social Sciences, Warsaw, Poland
12.15	Monitoring the life cycle of NPS in forums. Findings from the CASSANDRA project — Paolo Deluca, King's College London, United Kingdom
12.30	How the users of synthetic cannabinoid products organise their experiences: an interpretative phenomenological analysis — Szilvia Kassai, Eötvös Loránd University, Budapest, Hungary
12.45	Benzodiazepine/benzodiazepine analogues: reflecting on challenges for users, the medical profession and drug services in the age of drugs online — Karenza Moore, Lancaster University, United Kingdom
13.00	Diffusion of novel psychoactive substances: understanding population motives, harms and intervention needs — Lucy Wallis, Liverpool John Moores University, United Kingdom

### Parallel session VIII: Health needs and treatment provision for users of NPS

**Chairs: Giuseppe Bersani, Sapienza University and Owen Bowden-Jones, Imperial College**

11.00	Clubbing holidays in Ibiza: psychiatric symptoms and fatalities induced by NPS and other illicit substances — Giovanni Martinotti, University of Chieti-Pescara, Italy
11.15	Mephedrone and alcohol interactions in humans — Magi Farré, Hospital del Mar Medical Research Institute, IMIM, Barcelona, Spain
11.30	NPS users in drug rehabilitation services — Anna Péterfi, Reitox Hungarian national focal point, Hungary
11.45	NPS and psychopathology: novel compounds and patients — Pierluigi Simonato, University of Hertfordshire, United Kingdom
12.00	Review of admissions associated with use of novel psychoactive substances to a psychiatric intensive care unit — Abu Shafi and Antonio Metastasio, Camden and Islington NHS Trust, United Kingdom
12.15	NPS-induced changes in the phenomenology of psychiatric diseases — Giuseppe Bersani, Sapienza University of Rome, Italy
12.30	Mental and behavioural disorders in HIV-infected patients using surfactants — Ochilov Ulugbek, Hidirov Laziz, Turaev Bobur, Samarkand State Medical Institute, Uzbekistan

## Plenary sessions

**Plenary session IV: New psychoactive substances in perspective?**

**Chairs: Ornella Corazza, University of Hertfordshire and Roumen Sedefov, EMCDDA**

14.30 The future of new psychoactive substances — Michael Evans-Brown, EMCDDA

14.50 Closing remarks by the chairs

15.00 Closure



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## **The EMCDDA and action on new drugs**

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is one of the European Union's decentralised agencies. Established in 1993 and based in Lisbon, it is the central source of comprehensive information on drugs and drug addiction in Europe.

Since 1997, the EMCDDA has played a central role in the EU's response to new psychoactive substances ('new drugs'), which may pose health and social risks to our societies. Today, this activity is carried out under the terms of a legal instrument adopted by the Council of the European Union in 2005: the 'Council Decision on the information exchange, risk assessment and control of new psychoactive substances' (2005/387/JHA of 10 May 2005). Within this legal framework, the EMCDDA and Europol operate the EU Early Warning System on new psychoactive substances in conjunction with partners in the 28 EU Member States, Turkey and Norway, the European Medicines Agency and the European Commission. This system ensures that partners have access to the most up-to-date information on new psychoactive substances, both from across Europe and beyond.

[www.emcdda.europa.eu/activities/action-on-new-drugs](http://www.emcdda.europa.eu/activities/action-on-new-drugs)

## **Fourth international conference on novel psychoactive substances**

This event follows on from the first three conferences held in Budapest (2012), Swansea (2013) and Rome (2014). It is organised by: the University of Hertfordshire; the EMCDDA; Sapienza University of Rome; the World Anti-Doping Agency (WADA) and the Eötvös Loránd University, Budapest. The conference covers an array of topics, including: sharing accurate, evidence-based information on NPS trends; improving understanding of treatment and management approaches; and exploring socio-cultural factors underlying risky behaviours. International experts will examine the latest scientific research in this rapidly changing field.

[www.novelpsychoactivesubstances.eu](http://www.novelpsychoactivesubstances.eu)