



LISBON ADDICTIONS 2019

Third European Conference on Addictive Behaviours
and Dependencies

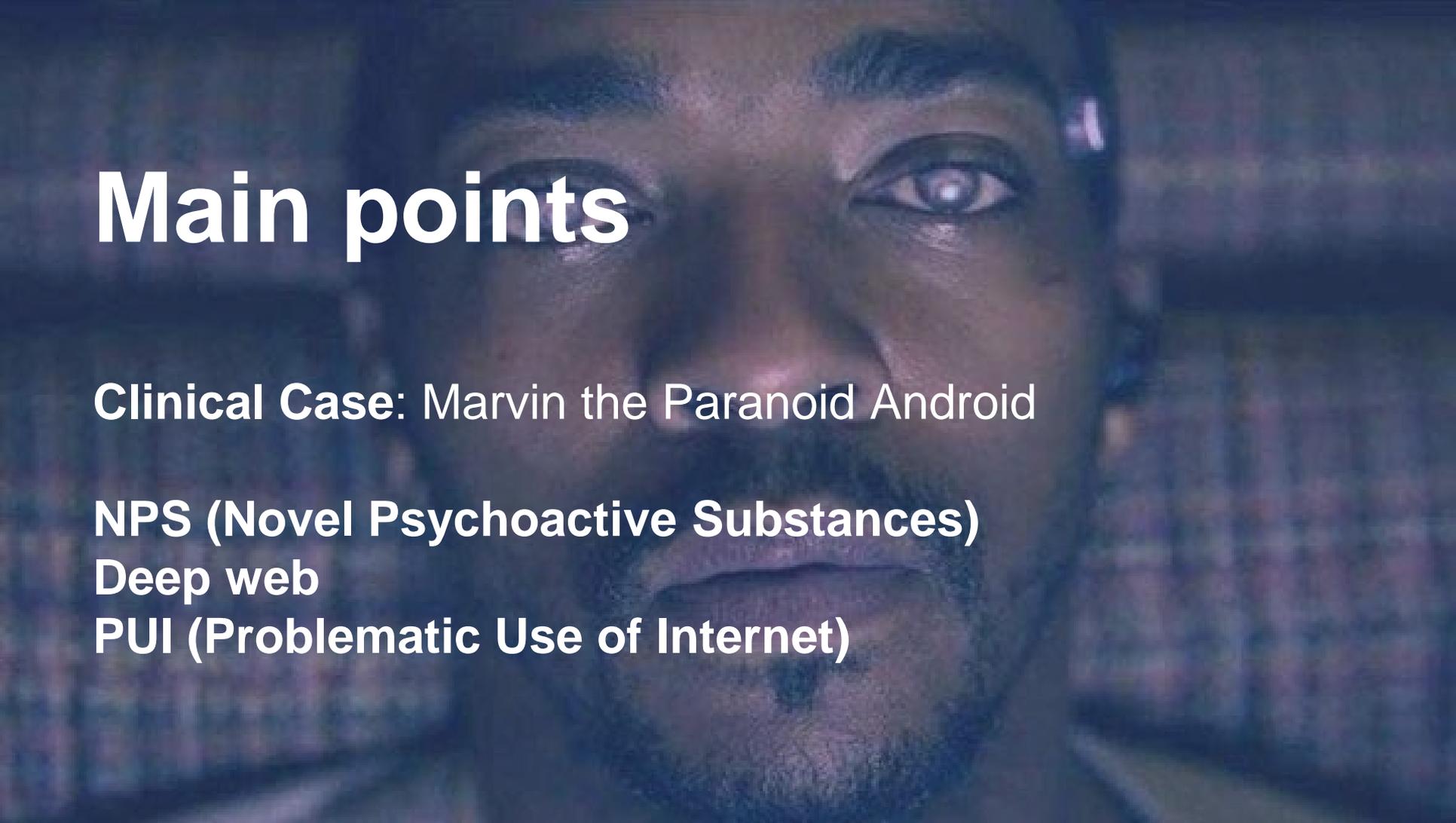
Lisbon Congress Centre

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PUI and novel forms of substance misuse: a controversial relation

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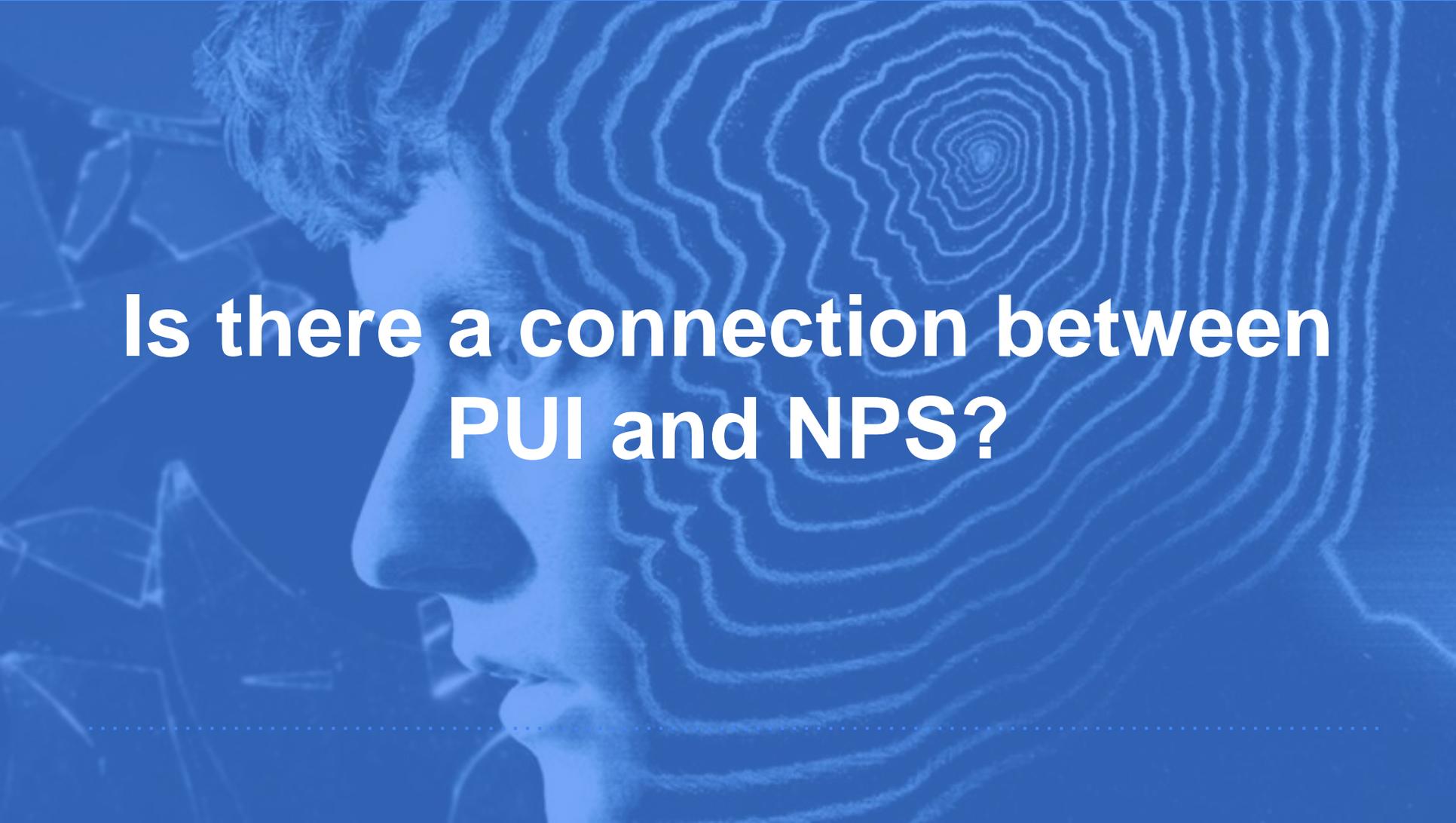
Main points

Clinical Case: Marvin the Paranoid Android

NPS (Novel Psychoactive Substances)

Deep web

PUI (Problematic Use of Internet)



**Is there a connection between
PUI and NPS?**

Clinical Case: Paranoid Android

Case Reports

“Marvin, the Paranoid Android”: The Case of an Alpha-PVP User in the Expanding Galaxy of NPS

Simonato Pierluigi , Bulsis Laura, Negri Attilio, Bansal Gurjeet K, Pessa Gloria, Mioni Davide, Giuseppe Borgherini, Martinotti Giovanni, Schifano Fabrizio, Giulia Perini & Corazza Ornella ...show less

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 <https://doi.org/10.1080/02791072.2018.1447172>

 Check for updates



The Hitchhiker's Guide to the
Galaxy series by Douglas Adams

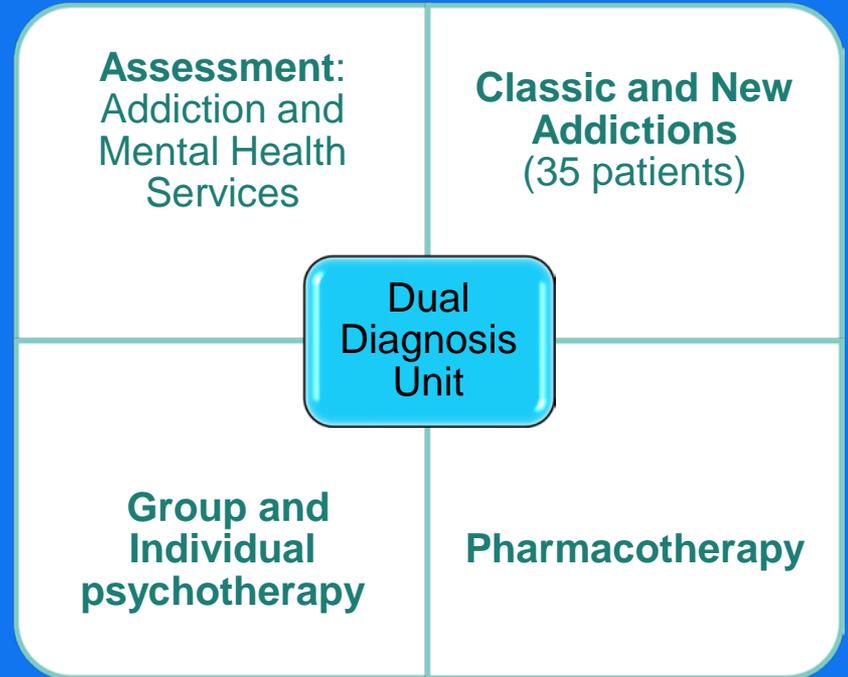


Marvin: his arrival at our Unit

- **28 years old**, single, studied at Liceo Scientifico, attempted **2 years University** (Tecniche Erboristiche)
- **Substances induced psychosis** (previous) and **depressive mood** (last weeks): reality check at the arrival seemed to be stable, **without evidence of delusions/hallucinations**
- Patient **was followed only by the Mental Health Service** when he arrived at our Unit (Treatment: Risperidone 4 mg/die ; Venlafaxine 75 mg/die ; Delorazepam mg1/die)
- He had two previous hospitalisation



- North east of Italy (Padova-Venice)
- 35 inpatients
- All regions of Italy
- Convention with the National Health System
- Clinical Director: Prof. Giulia Perini
- 30 days recovery





Marvin: anamnestic events

- a. **16 y.o.:** intense use of THC (cannabis and skunk) with first psychotic episode with visual and auditory hallucinations – Mental Health Service
- a. **Not followed by Local Addiction Service (at the time)**
- a. **He revealed** (after strong security reassurances) **a strong use of NPS starting from 18 years old**



Marvin: a psychonaut.

- d. **He became a psychonaut.** He surfed the web **compulsively** to
- Explore the drug market
 - Inform himself on novel compounds available online
 - Find the **best substance** for himself
 - Search in the open/closed webfora and the dark net (he didn't want to reveal the exact sites !)
 - Buy novel substances
 - Review NPS that he tried
 - Avoid legal actions (anonymous package, neighbours address)



The Deep Web and Dark Web



The Deep/Dark web

- **The deep web is the part of World Wide Web content not indexed by standard search engines.**
- **The dark web is a “secret and anonymous” part** where you can buy drugs, weapons or other illegal materials.
- **Most of online drug marketplaces**, particularly those selling illegal substances, **are located on the “dark net of the deep web.”**



What does it mean? (McGuigan, 2011)

- The traditional search engines see only a small amount of the information that is available whereas **the deep web is several orders of magnitude larger than the surface web.**
- It has been estimated by Google that the amount of Internet is 5.000.000 of terabyte.
- While **Google is able to find 200 terabyte.**
- **We are talking of 0.004%of the data.**

Corazza, O., & Roman-Urrestarazu, A. Novel Psychoactive Substances.

Mack, R. (2019). Combating the Illicit Goods Trade on the Dark Web.

An iceberg-shaped diagram representing the different layers of the web. The top part, which is above the water line, is labeled 'SURFACE WEB'. The bottom part, which is below the water line, is divided into two sections: 'DEEP WEB' on the left and 'DARK WEB' on the right. The diagram is set against a teal background with white clouds. The iceberg itself is composed of many small, light blue triangles.

SURFACE WEB

- Publicly available websites
- Search engines

DEEP WEB

- Medical information
- Legal documents
- Scientific reports
- Subscription info
- Various databases
- Government Intel
- Company specific repositories

DARK WEB

- Illegal websites and information
- Tor-encrypted websites
- Websites that sell drugs
- Private communication forums





Who are the e-psychonauts?

- **New populations of users**: attitude towards **self-experimentation**
- They are **“invisible” to traditional health services** (Addiction services)
- They consider themselves **different from “junkies”**
- They are the “latest generation of drug users”: **educated and informed**
- **They post their experiences online**
- “Psychonauts” refers to users of **different drug categories** (synthetic cannabinoids, opioids, dissociatives, etc.)

Schifano, F., Napoletano, F., Chiappini, S., Guirguis, A., Corkery, J. M., Bonaccorso, S., ... & Vento, A. (2019). New/emerging psychoactive substances and associated psychopathological consequences. *Psychological medicine*, 1-13.

Orsolini, L., Chiappini, S., Corkery, J. M., Guirguis, A., Papanti, D., & Schifano, F. (2019). The use of new psychoactive substances (NPS) in young people and their role in mental health care: a systematic review. *Expert review of neurotherapeutics*



Who are the e-psychonauts?

- A definition is not available: [we do not have a clear psychopathological profile](#)
- The web has become a **strategic source of information** about the spread of **new substances**, their effects and possible risks (Soussan and Kjellgren, 2014a, b; Davey et al., 2012; Deluca et al., 2012).

Orsolini, L., Ciccacese, M., Papanti, D., De Berardis, D., Guiguis, A., Corkery, J., & Schifano, F. (2019, January). Psychedelic fauna for psychonaut hunters. In *European Neuropsychopharmacology* (Vol. 29, pp. S472-S473).

Orsolini, L., Papanti, G. D., Francesconi, G., & Schifano, F. (2015). Mind navigators of chemicals' experimenters? A web-based description of e-psychonauts. *Cyberpsychology, Behavior, and Social Networking*, 18(5), 296-300.



NPS: Novel Psychoactive Substances

“New narcotic or psychotropic drug” which is **not scheduled** under Conventions of 1961 or 1971 but which may pose a public health threat.

“New” means **recently available**: many NPS are not completely “unknown”, but their use constitutes a novelty.

They are sold **online**.

Advisory Council on the Misuse of Drugs , Novel Psychoactive Report (2011)

Corazza, O., Assi, S., Simonato, P., Corkery, J., Bersani, F. S., Demetrovics, Z., ... & Deluca, P. (2013). Promoting innovation and excellence to face the rapid diffusion of novel psychoactive substances in the EU: the outcomes of the ReDNet project. *Human Psychopharmacology: Clinical and Experimental*, 28(4), 317-323.

Different Groups

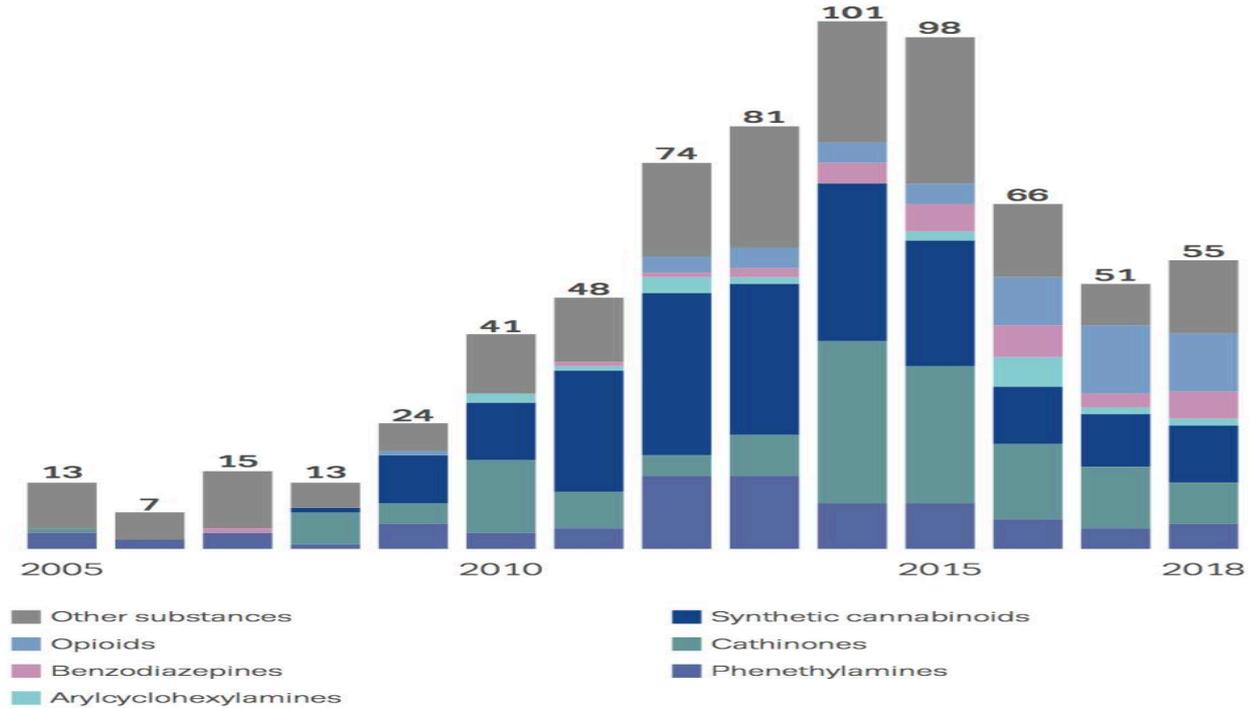
Difficult to be Update!

Not universally agreement to categorise them

NPS mimic existing established recreational drugs!!

- Synthetic cathinones
- Spice drugs
- Synthetic tryptamines
- PCP/ketamine-like compounds
- Ethno-drugs
- Synthetic analogues
- Medical products
- PIEDs

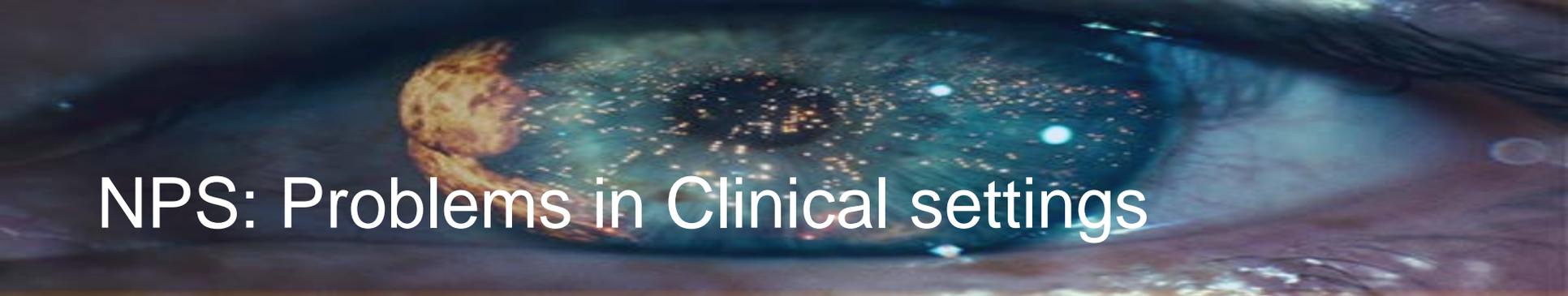
Number and categories of new psychoactive substances notified to the EU Early Warning System for the first time, 2005-18





*The NPS World
is actually an expanding
Galaxy!*

At least one new psychoactive substance appears on the illicit drug market every week
400 identified substances / 4000 molecules.



NPS: Problems in Clinical settings

Unpredictable effects

Present in clinical and ER settings

Difficult assessment in traditional health services

Different populations (e.g. clubbers and psychonauts)

Risk of misdiagnosis (e.g. psychotic symptoms)

Helander, Anders, et al. "Detection of new psychoactive substance use among emergency room patients: Results from the Swedish STRIDA project." *Forensic science international* 243 (2014): 23-29.

Schifano, F., Orsolini, L., Duccio Papanti, G., & Corkery, J. M. (2015). Novel psychoactive substances of interest for psychiatry. *World Psychiatry*, 14(1), 15-26.

NPS: The International Conferences

Organised by



Supported by



PROGRAMME

Sixth international conference on novel psychoactive substances

8–9 April 2019
Maastricht, The Netherlands

VI INTERNATIONAL CONFERENCE ON NOVEL PSYCHOACTIVE SUBSTANCES 8-9 APRIL 2019, MAASTRICHT, NETHERLANDS

ABOUT THE CONFERENCE



We are pleased to announce that the VI International Conference on Novel Psychoactive Substances (NPS) will be held on 8th – 9th April 2019 at the University of Maastricht in the Netherlands.

The series, which started in Budapest in 2012, aims to share knowledge and

strengthen collaboration on NPS among multidisciplinary professionals at the international level.

The conference is jointly organised by the United Nations Office on Drugs and Crime (UNODC), the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), the World Anti-Doping Agency (WADA), University of Hertfordshire, University of Maastricht.



5

PREVIOUS CONFERENCES

1200

ATTENDED DELEGATES

35

DIFFERENT COUNTRIES

430

PRESENTATIONS



What a psychonaut can do?

- Anonymize himself (e.g. Tor)
- Search for substances (e.g. Grams)
- Read the description of the product (e.g. Sellers review, drug fora)
- Buy the compounds (e.g. crypto-currencies)
- Receive the anonymous package
- Review the sellers and the product



Marvin: Exploring NPS galaxy (1)

JWH 2210 (not AH): alone; dissolved in alcohol, 1g → 15 mg per dose

4 HO Met [4-hydroxy-N,N-ethyl-methyltryptamine] : 15-20 mg ; tried 1 time; laugh and low mood ; he observed that he was using anti-psychotic medications

2 C-E [4-ethyl-2,5-dimethoxyphenethylamine] : 18 mg ; tried once , no effects

MDPV: low dosage; dissolved in water; two times , he observed a middle stimulation

Kratom : 1 time , sweating , middle visual effects , miosis , heat

Amanita muscarina

Salvia divinorum: few times



Marvin: Exploring NPS galaxy (2)

Ketamine : 3- 4 times, pleasant effects but he perceived it 'harmful'.

Methoxetamine: 'another planet', 1 time at 50 mg, powerful, few seconds of psychotic experience.

Pentadrone (α -methylamino-valerophenone): 2-3 times, middle effect

Ethyl-phenidate: 'strange effect', dissociative symptoms.



Marvin: Exploring NPS galaxy (3)

25 C and I NBOME: 2 times , stimulant effect

Oxycodone: 1 time

AH-2971

MT-45

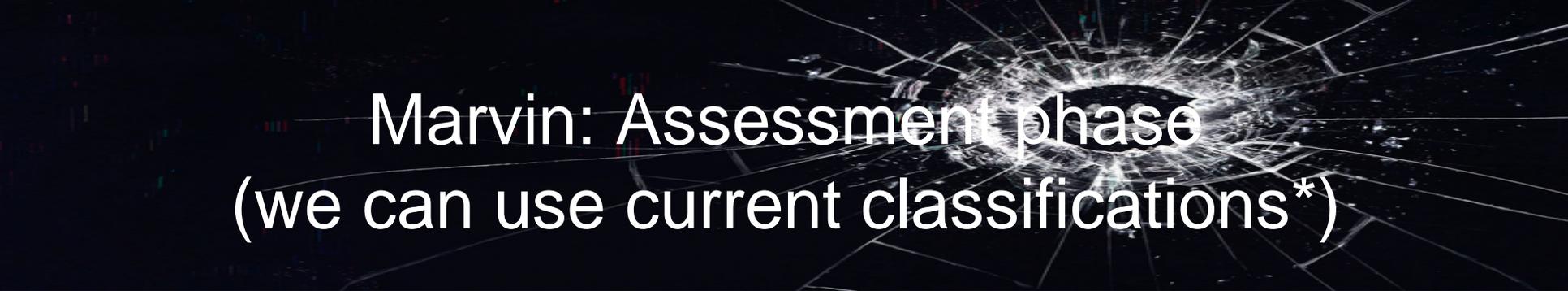
DMT: 1 time, vaporized



Marvin: Exploring NPS galaxy (4)

Alpha PVP (α -Pyrrolidinopentiophenone)

- Powder form: insufflated or smoked, **every day for 3-4 days**, for 5-6 months Dosage till **300 - 400 mg** [suggested dosage in online fora is 25 - 30 mg]
- Effects : **Stimulation (+++)**, **mental (euphoria)**; **physical (energy)** ; sexual (arousal)
- 'Panic attacks': especially after at high dosage **Hyperpyrexia: 40°C**
- Delusions (Ekblom's syndrome, persecutory delusion)
- Arrival at psychiatric ward and then at our Unit where [he revealed the use of compounds for the first time](#)



Marvin: Assessment phase (we can use current classifications*)

- **Stimulant (NPS) and cannabis dependence**
- **Psychotic episode induced by substances**
- **Schizoid Personality Disorder**

He participated to the Program (40 days) with individual and group psychotherapy; change of AD, he progressively integrated to the group changing his mind about NPS.

(***Clinical interviews, SCID I II; SCL-90; MMPI-2**)



Are we satisfied ?

Psychiatric disturbances?

Personality ? What about “Dark traits”*?

(Machiavellianism, psychopathy, narcissism, sadism)

Addictions? What is the role of [Internet](#) ?

* Kircaburun, K., Jonason, P. K., & Griffiths, M. D. (2018). The Dark Tetrad traits and problematic online gaming: The mediating role of online gaming motives and moderating role of game types. *Personality and Individual Differences*, 135, 298-303.



PUI : Problematic Use of Internet

- Problematic Use of the Internet (PUI) is **an umbrella term**.
- According to literature there's **a range of repetitive impairing behaviors** (excessive and compulsive video gaming, compulsive sexual behaviour, buying, gambling, streaming or social networks use).
- **The actual scientific effort is bringing together scientists** and clinicians from across different fields (impulsive, compulsive, and addictive disorders) **to better understand the phenomenon** [European Cooperation in Science and Technology (**COST**) Action Programme (CA 16207)]



- There's a great debate about it.
- A **spectrum of Internet usage**, from controlled to uncontrolled, is recognized (Billieux et al., 2017).
- Psychiatry is beginning to acknowledge PUI.
- Key point: **“old” psychopathological phenomena that have been reconfigured and others are intrinsically linked to cyberspace.**

Aboujaoude, E. (2010). Problematic Internet use: an overview. *World Psychiatry*, 9(2), 85-90.

Spada, M. M. (2014). An overview of problematic Internet use. *Addictive behaviors*, 39(1), 3-6.



Two potential processes:

- (1) Problematic Internet Use may predispose to develop psychiatric disease
- (1) Psychiatric patients can develop Problematic Internet Use as a coping strategy

The studies, so far, were not designed or statistically powered to detect the nature of the association (cause, effect, or independent).

**Our work as clinicians is
challenging.**

Our clients are changing.
Our environment is changing.

- New population of clients
- New drug scenario
- New psychopathologies
- New pervasive role of Internet



An astronaut in a full space suit stands on a rocky, mountainous peak. The sky is a deep, dark blue, filled with a dense field of stars and a faint, glowing nebula. The sun is visible on the right side of the frame, creating a bright glow and casting a long shadow of the astronaut onto the ground. The overall mood is one of vastness and readiness for exploration.

Be ready.