



BorderSens Symposium

On-site detection of illicit drugs

Tuesday 21 November 2023

University of Antwerp

Klooster Van De Grauwzusters

Antwerp, Belgium

Programme

09:00 - 09:30

Welcome Coffee

Opening speeches by:

09:30 - 10:00

- Prof. Ronny Blust, Vice-rector Research of the University of Antwerp
- Ms. Annelies Verlinden, Belgian Minister of the Interior, Institutional Reform and Democratic Renewal
- Ms. Floriana Sipala, Head of Unit Organised Crime and Drugs, DG HOME of European Commission

10:00 - 10:15

Introduction to BorderSens project - Prof. Dr. Karolien De Wael (University of Antwerp)

10:15 - 11:15

Presentation of the BorderSens devices: array, single sensor and nanoMIPs sensor - Dr. Annemarijn Steijlen (University of Antwerp) and Dr. Filip Van Durme (NICC)

Reflections by:

11:15 - 12:00

- Mr. Pieter Lescouhier (Belgian Customs)
- Mr. Ger Koomen (Dutch Customs)
- Mr. Dragos Voicu (Frontex)

12:00 - 13:30

Lunch and demonstration of the BorderSens devices

13:30 - 14:00

Presentation "Everybody, everywhere, all at once: on-scene, admissible illicit drug identification in seconds using portable technology and data science" by Prof. Dr. Arian van Asten (University of Amsterdam)

Panel discussion "Future Perspectives on the On-site Detection of Illicit Drugs" moderated by Prof. Dr. Els Du Bois (University of Antwerp) with the participation of:

14:00 - 15:00

- Mr. Marcel Heerschop, Dutch Customs Lab
- Dhr. dr. Pieter Oomen, Trimbos-instituut/Drugs Information and Monitoring System (DIMS)
- Mr. Giulio-Maria Mancini, Policy Officer Innovation and Security Research, DG HOME of European Commission
- Mr. Wil van Heeswijk, Team leader - Customs Control Equipment Instrument, DG TAXUD of European Commission

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- 15:00 - 16:00** Networking coffee break
- 16:00 - 18:00** PhD public defence by Robin Van Echelpoel (University of Antwerp)
- 18:00 - 19:30** Reception

**The conference will be open to everyone free of charge
prior registration through [this link](#)**



Address of the venue

Klooster van de Grauwzusters
Gebouw S
Lange Sint-Annastraat, 7
2000 Antwerp, Belgium

[How to travel to Antwerp](#)

Organized by:



www.bordersens.eu

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The ultimate research aim of BorderSens is to develop a portable, wireless prototype device with the capability to quickly test for different types of illicit drugs, precursors and adulterants/cutting agents, with outstanding accuracy and reduced false positives and false negatives.

To do so, three different prototypes have been developed:

- The BorderSens array, which contains six electrochemical sensors with three different modifications (with graphene and carbon nanotubes). When a sample is measured with all sensors, a unique electrochemical fingerprint is recorded. By means of an AI-based algorithm, the six signals are analyzed to automatically identify the illicit drugs in the samples (if any).
- A single sensor device that allows the automatic detection of different drugs, provided that a flowchart is followed that tells the user which consumable (with a specific buffer solution) to choose.
- NanoMIPs sensors that allow the detection of non-electroactive drugs such as amphetamines. The sensors are aimed to be very selective to a certain target and will work at different pH's and temperatures.

BorderSens currently comprises 16 partners (universities, border authorities, police services in ports and airports, public organisations, and companies) from 8 EU member states, coordinated by the University of Antwerp.