



Network of reference laboratories and related organisations for
monitoring and bio-monitoring of emerging environmental pollutants

NORMAN network on emerging substances: presentation and activities in passive sampling

*Valeria Dulio** (INERIS), *Jaroslav Slobodnik* (Envir. Institute)

**Executive Secretary of the NORMAN Network*

www.norman-network.net



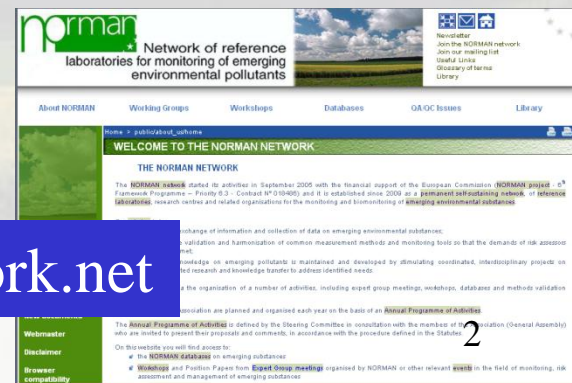
NORMAN network – emerging substances

- Network of reference laboratories, research centres and related organisations for monitoring of emerging substances
- >50 members from EU leading organisations (19 European countries and Canada)
- Former EU-funded project, established as a permanent network in 2009

Mission of the NORMAN network:

- Exchange information on emerging substances
- Improve data quality
- Promote synergies among research teams

<http://www.norman-network.net>



The screenshot shows the homepage of the NORMAN network. At the top, there is a navigation bar with links for 'About NORMAN', 'Working Groups', 'Workshops', 'Databases', 'O&C Issues', and 'Library'. Below this is a main heading 'WELCOME TO THE NORMAN NETWORK' followed by a paragraph describing the network's mission and history. The text mentions that the network was established in 2009 and is a permanent self-organising network of reference laboratories. It also lists the network's objectives, including the exchange of information, validation and harmonization of methods, and the organization of activities like expert group meetings and workshops. The page is partially obscured by a blue banner at the bottom containing the website URL.



Environmental contaminants: “knowns and unknowns”

- **“Known knowns”**: Conventional pollutants e.g. PCBs, metals, PAHs
We know how to measure them and we have data to assess the risks

“Known unknowns”: e.g. PFCs, PPCP, nanomaterials

Known emerging pollutants: we know that they are present in the environment, but we don't know them enough (not enough data to assess the risks)

“Unknown unknowns” ???

Unknown emerging pollutants: we don't know yet WHAT they are(next generation emerging contaminants, metabolites and transformation products, suspect of causing effects, including as mixtures)

Emerging risks

NORMAN network – emerging substances: key challenges

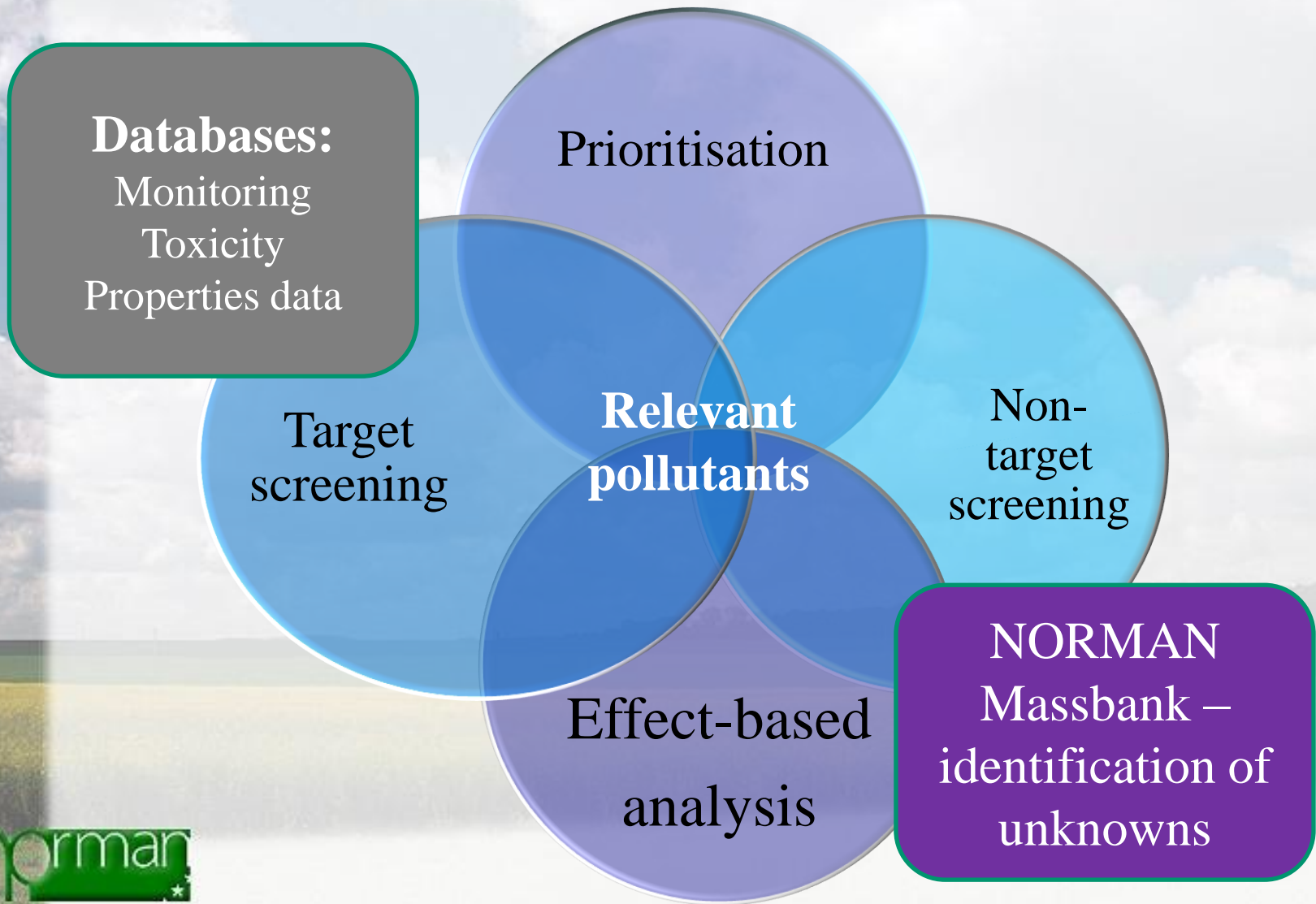
- How to identify the relevant emerging compounds?
- How to effectively sample for emerging compounds?



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A screenshot of the NORMAN network website. The header includes the logo and the text "Network of reference laboratories for monitoring of emerging environmental pollutants". Below the header is a navigation menu with links for "About NORMAN", "Working Groups", "Workshops", "Databases", "QA/QC Issues", and "Library". The main content area features a "WELCOME TO THE NORMAN NETWORK" section, followed by a paragraph describing the network's origin and purpose. A "Our mission is to:" section lists several goals, including enhancing information exchange and harmonizing measurement methods. The footer contains a "Webmaster" section, a "Disclaimer", and a "Browser compatibility" section. A small "4" is visible in the bottom right corner of the screenshot.

NORMAN components for identification of relevant pollutants



NORMAN network – emerging substances

- **Working Groups**

- Prioritisation; Bioassays; Effect-Directed Analysis; Engineered Nanoparticles

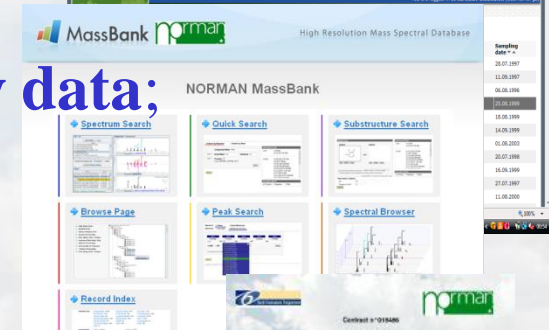
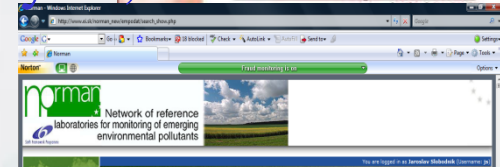
- **Databases**

- EMPODAT: Occurrence and (eco)toxicity data;
- NORMAN MassBank : Mass spectra =>> identification of unknowns

- **NORMAN Protocol for methods' validation**

- Under negotiation at CEN =>> future CEN TS

- **NORMAN Bulletin**



NORMAN network – emerging substances

- **International Interlaboratory Studies, e.g.:**
 - 2012 Organophosphorous FR in sediment, fish and dust
 - 2011 Passive sampling of emerging substances
 - 2010 Perfluorinated compounds in water and biota
- **Thematic international workshops, coming soon:**
 - **MassBank training workshop – UFZ, EAWAG, Amsterdam, 27 Nov 2012**
 - **Occurrence, fate and effects of emerging pollutants in the environment - chemical analysis and toxicological assessment – IVM, Amsterdam, 29-30 Nov 2012**



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NORMAN network – emerging substances: key challenges

- How to identify the relevant emerging compounds?
- How to effectively sample for emerging compounds?
 - Detection / quantification of low concentrations => subst. with very low EQS (ng/L or sub ng/L)
 - Comparability of measurements
 - Representative samples => better representation of real exposure levels (time-integrated concentrations)
 - Links with observed effects on the ecosystems (=> bioassays responses)

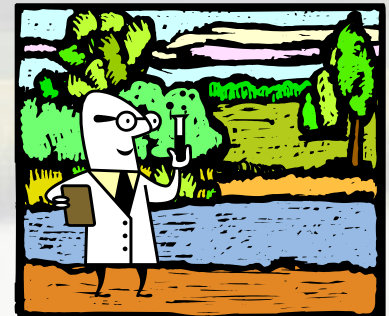
NORMAN interest in passive sampling

- Non-mechanical devices (easy to deploy and require no maintenance)
- Measurement of a freely dissolved concentration of contaminants in water (=> relevant extracts for toxicity testing)
- Continuous sampling – measurement of TWA concentrations (=> monitoring of peak events)
- Extremely low limits of detection (low pg/L level)
- **Worldwide comparable**



Activities of NORMAN in passive sampling (Action leader: B. Vrana, WRI, SK)

- An **expert group meeting** on passive sampling Prague, 2009
- A **position paper** “*Passive sampling of emerging pollutants in the aquatic environment: state of the art and perspectives*” in 2010
- An **interlab. study** organised by NORMAN Association and DG JRC in support of CIS WFD in 2011 =>> **Workshop of today + Final report**



Examples of applicability of passive samplers in monitoring under WFD

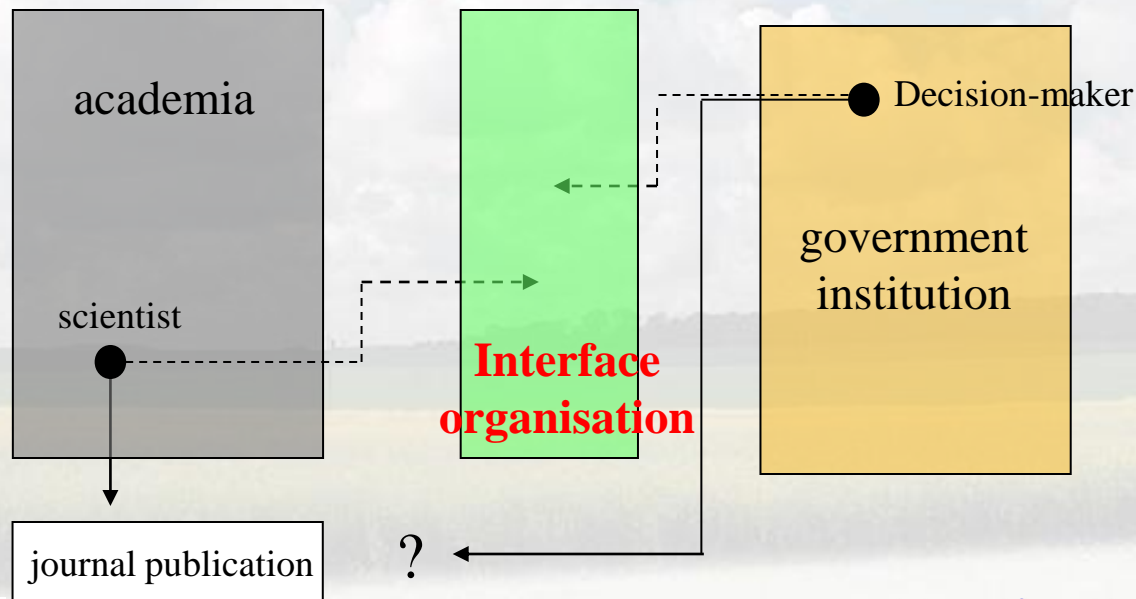
1. Assessment of spatial distribution of ultra trace contaminants e.g. in coastal and transitional waters
2. Monitoring of long term trends of bioaccumulating compounds
3. Matrix for compliance checking with EQS
4. Measure activity and fugacity of compounds in the aqueous phase
5. A monitoring tool to support modelling of pollutant fate

Proposed activities for NORMAN 2013

- **An expert meeting: Matching WFD EQS and passive sampling results**
 - a position paper on how passive sampling fits for compliance checking with EQS
 - Invited experts in ecotoxicology and in analytical chemistry / passive sampling
- **Development of a methodology for continuous screening of large rivers using passive sampling**
 - demonstration of the performance of passive samplers in a wide range of environmental conditions
 - will introduce the technique to more MS and facilitate the future acceptance of passive sampling in routine regulatory monitoring programmes.

Science-policy interface

- Often a mismatch of objectives and needs...between scientists and decision-makers
- Effective communication needed
- **The role of NORMAN as an interface organisation**



Thank you for your attention !



The screenshot shows the homepage of the NORMAN Network website. The header features the logo and the full name: "norman Network of reference laboratories for monitoring of emerging environmental pollutants". Navigation links include "About NORMAN", "Working Groups", "Workshops", "Databases", "QA/QC Issues", and "Library". The main content area is titled "WELCOME TO THE NORMAN NETWORK" and "THE NORMAN NETWORK". It describes the network's origin in 2005, its mission to enhance information exchange and harmonize measurement methods, and lists key activities like expert group meetings and workshops. A blue banner at the bottom of the screenshot contains the URL "http://www.norman-network.net".

norman Network of reference laboratories for monitoring of emerging environmental pollutants

Home > public/about_us/home

WELCOME TO THE NORMAN NETWORK

THE NORMAN NETWORK

The **NORMAN network** started its activities in September 2005 with the financial support of the European Commission (**NORMAN project** - 6th Framework Programme - Priority 6.3 - Contract N° 019496) and it is established since 2009 as a **permanent self-sustaining network of reference laboratories**, research centres and related organisations for the monitoring and biomonitoring of **emerging environmental pollutants**.

Our **mission** is to:

- enhance the exchange of information and collection of data on emerging environmental substances;
- encourage the validation and harmonization of common measurement methods and monitoring tools so that the demands of risk assessors can be better met.

...ained and developed by stimulating coordinated, interdisciplinary projects on identified needs:

- including expert group meetings, workshops, databases and methods validation

...ear on the basis of an **Annual Programme of Activities**.

The **Annual Programme of Activities** is defined by the Steering Committee in consultation with the members of the Association (General Assembly) who are invited to present their proposals and comments, in accordance with the procedure defined in the Statutes.

On this website you will find access to:

- the **NORMAN databases** on emerging substances;
- Workshops** and Position Papers from **Expert Group meetings** organised by NORMAN or other relevant **events** in the field of monitoring, risk assessment and management of emerging substances

Webmaster
Disclaimer
Browser compatibility

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