



RECETOX NEWSLETTER

RECETOX NEWSLETTER is a quarterly newsletter by the Research Centre for Toxic Compounds in the Environment (RECETOX), Brno, Czech Republic.

Learn,
discover,
prove
and apply



RECETOX is an independent Research Centre for Toxic Compounds in the Environment operating within the Faculty of Science, Masaryk University, Brno, Czech Republic.

RECETOX fulfils three functions: academic institution providing university education, research institution working on transformation of the research into practical applications and a body supporting implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs) and of the sound chemicals management in general nationally and internationally.

In this issue

- 30 year anniversary and calendar of events
- RECETOX timeline
- New director and current development
- Czech and International activities



Foreword

Dear readers,

Thank you for the feedback you provided regarding our first newsletter; it is very valuable to us.

This time, we wish to pay special attention to a period that started November 8th, 1983, and onwards. Why? It is the birth date of the core that over the years developed into RECETOX. Therefore, this issue provides a clearer look at the path we and our predecessors undertook to get us to where we are today, and is also dedicated to them.

We hope you will enjoy the ride through time as well as news that happened over the summer and in early September.

Enjoy reading!

Katka Šebková, on behalf of the editors

PS - The RECETOX newsletter is also available automatically if registered through www.recetox.muni.cz or newsletter@recetox.muni.cz and exists in English, Czech and Russian. The next issue will be out at the end of December 2013.

Celebrating 30 years of the Research Centre for Toxic Compounds in the Environment – RECETOX

Research Centre for Toxic Compounds in the Environment (RECETOX) – an independent research and educational centre operating at the Faculty of Science of Masaryk University in Brno, Czech Republic – celebrates its 30th anniversary in November 2013.

The roots of the RECETOX centre run deep, back to November 8th, 1983. The Department of Formation and Protection of the Environment was then established within the Faculty of Science, Masaryk University. The core of the department's work was complex ecologic research and analytical chemistry. Since then, studies of the characteristics, fate, transport and risks related to contamination of the environment by toxic chemicals have been performed.

The name of the department changed to the Department of Environmental Protection in 1987 and a project called TOGOEN (Toxic Organic Compounds in the Environ-

ment) was also established in the summer of the same year. It was an open scientific platform linking academia in the department with other (external) specialists in the Czech Republic and Slovakia to work on various environmental issues.

In addition, ecotoxicology and risk analyses came into focus during 1990s and broadened and further developed the expertise available in the department. New equipment was provided through a project of the PHARE EU programme and allowed for further expansion. The project thus established a Research Centre for Chemistry and Ecotoxicology that coordinated transfer of new environmental chemistry and ecotoxicology techniques to the Czech Republic and other EU countries (FITA Belgium project, 1993–1997).

The Centre of Biostatistics and Analyses detached from its parent department in 2001. This centre became the



current Institute of Biostatistics and Analyses, a joint establishment of the Faculty of Science and Faculty of Medicine at the Masaryk University.

The Research Centre for Chemistry and Ecotoxicology started inventories of persistent chemicals in the environment in 2001. Two projects – an inventory of persistent organic pollutants in Europe (2001–2004, UNEP Chemicals) and the Preparation of the National Implementation Plan for the Stockholm Convention in the Czech Republic (2001–2003, UNIDO) – supported international activities performed by RECETOX. These were then followed by a framework agreement between RECETOX and the Ministry of the Environment of the Czech Republic to establish the National Centre for Persistent Organic Pollutants in 2006 and endorse RECETOX as the Stockholm Convention Regional Centre for Capacity Building and the Transfer of Technology in Central and Eastern European countries in 2009.

Another significant international acknowledgement of our endeavours was the EU Centre of Excellence project – “RECETOX – Centre of Excellence in Environmental Chemistry and Ecotoxicology” financed by the EU in 2003–2005. This project was followed by the INCHEM-BIOL research project (INteractions among CHEMicals, environment and BIOlogical systems and their effects at the global, regional and national levels, 2007–2011) of fundamental research. The state of the art research infrastructure that RECETOX has at present was supported by the CETOCOEN project financed by EU Structural Funds, Operational Programme for Research and Development for Innovations (OP RDI).

RECETOX research infrastructure works in “open-access” mode for Czech and international researchers. The centre also supports monitoring and analyses of environmental contamination and training in 58 countries, and undertakes almost 50 research projects and 30 contract research projects per year. In addition, at least one international event takes place at RECETOX monthly.

In conclusion, over last 30 years RECETOX developed into an institution that provides education in three distinct majors: environmental chemistry, ecotoxicology and computational biology, and carries out research on contamination of the environment and effects on living organisms by toxic chemicals. The scope and breadth of its work has a significant international dimension and the focus is on transforming research results into practice.

We have grown from a single analytical chemistry laboratory into an establishment with four research programmes (environmental chemistry and modelling, organic photochemistry and supramolecular chemistry, protein engineering and ecotoxicology), three core units of research infrastructure (the laboratories of trace analyses, the GENASIS environmental data repository, and the ELSPAC epidemiological database), and two application centres supported by efficient management and administrative staff.

We should remember our past, appreciate the present and endeavour to improve in the future. To this end, have a look at the timeline marking various milestones of the RECETOX past and also have a look at our present below.

We should also celebrate RECETOX’s achievements, so if you want to join us, see the list of events (on the last page of the newsletter) that RECETOX is organising or co-organising to mark its 30th anniversary.

We look forward to meeting you there!



Research Centre
for Toxic Compounds
in the Environment

30 years

Laboratories of the Trace Analyses

Our services:

- QA/QC system, validated analytical methods
- modern equipment for extractions, fractionations and purification of samples
- State of the art instrumentation for analyses of persistent organic pollutants and heavy metals
- Speciation analyses of toxic and essential elements in the environment and biota
- Long term monitoring – air, precipitation, soil, water, sediments, needles, mosses and lichens
- air monitoring networks – MONET in Europe, Africa and Asia
- sampling by active and passive samplers
- sampling of precipitation and surface waters, sediments, soils and biotic materials





RECETOX timeline

- November 1983 ▶ establishment of Department of Formation and Protection of the Environment
- December 1983 ▶ location **Kotlářská 2, building 05**
- August 1987 ▶ TOCOEN project establishment
- September 1988 ▶ regular monitoring at Košetice observatory in cooperation with CHMI
- November 1989 ▶ **Velvet Revolution – from communist ideology towards democratic establishment**
- January 1990 ▶ Ivan Holoubek, Director of the Department
- 1991 ▶ move to **building 07 at Kotlářská 2**
- 1993 ▶ TOCOEN ltd. spin-off established
- Januray 1993 ▶ **Czech Republic consituted (split of the former Czechoslovakia)**
- May 1993 ▶ first international project FITA Belgium
- June 1994 ▶ first PhD student graduates (Ecology major)
- July 1994 ▶ establishment of the Research Centre – PHARE project
- July 1995 ▶ move part of the Centre to **Botanická 68a**
- September 1997 ▶ establishment of PhD major in Environmental Chemistry
- September 1997 ▶ Environment Protection-Ecotoxicology major established
- July 1998 ▶ moving whole RECETOX to **Veslařská 107**
- January 2001 ▶ first UN project (UNIDO) – “Enabling activities – implementation of the Stockholm Convention on POPs in CZ”
- 2001 ▶ Centre of Biostaticstics and Analyses detached from parent institution
- 2001 ▶ Regional Based Assessment of Persistent Toxic Substances – UNIDO project starts (2001–2004)
- May 2001 ▶ **Stockholm Convention on POPs adopted**
- December 2001 ▶ leaving **Veslařská 107 for Kamenice 3 (pavilion A1)**
- May 2002 ▶ first large meeting on POPs in Brno: 2nd PCB workshop for 150 participants
- September 2002 ▶ first EU framework programe (FP5 project APOPSBAL)
- 2003 ▶ national inventory of POPs – Czech Republic
- 2003 ▶ first EU project – Centre of Excellence
- October 2003 ▶ MONET CZ network established
- November 2003 ▶ first UN meeting: Persistent Toxic Substances Contamination of the European Region Workshop
- April 2004 ▶ SETAC – 14th Annual Meeting of SETAC, Prague
- May 2004 ▶ **Stockholm Convention on POPs enters into force**
- 2005 ▶ start of POPs monitoring (air) in the CEE region
- May 2005 ▶ **Czech Republic becomes EU member**
- July 2005 ▶ first Summer school on Environmental Chemistry and Ecotoxicology
- September 2005 ▶ international conference ECOTOX 2005, Brno
- November 2005 ▶ National Centre for POPs establishment – joint centre for MoE and Masaryk University
- December 2005 ▶ Passive Air Sampling Worskhop
- 2006 ▶ POPs Modeling Workshop
- 2006 ▶ GENASIS-environmental database project constituted
- September 2007 ▶ establishment of PhD major in Ecotoxicology
- October 2007 ▶ RECETOX nominated as Stockohlm Convention Regional Centre
- 2008 ▶ start POPs monitoring (air) in Africa
- April 2009 ▶ RECETOX endorsed Stockholm Conveniton Regional Centre
- April 2009 ▶ monitoring network MONET Europe established and operating
- September 2009 ▶ 10th HCH and Other Pesticides Forum in Brno
- 2010 ▶ start of the CETOCOEN project – centre of applied research
- August 2010 ▶ start of the construction works – A29 pavilion
- October 2010 ▶ GENASIS database part of the Czech uniform information system on environment
- May 2011 ▶ Identifying the research needs in the global assessment of POPs ten years after the signature of the Stockholm Convention
- April 2012 ▶ ELSPAC epidemiological database housed at RECETOX
- October 2012 ▶ moving in and opening of the new premises **A29, Kamenice 753/5**
- May 2013 ▶ RECETOX mandate as Stockholm Convention Regional Centre prolonged
- September 2013 ▶ Jana Klánová becomes new director of RECETOX



RECETOX today

Our people

RECETOX has **150 employees** at present. The majority of these are researchers, including ten professors, five associate professors and six assistant professors (academic staff). In addition, there are **11** people in management and **26** laboratory/technical staff.

New projects

We have prepared a number of project proposals and we are happy to report the following good news:

RECETOX received a five year project to support the sustainability of RECETOX over the period 2014–2018. This project was granted by the Ministry of Education, Youth and Sports of the Czech Republic through the National Sustainability Programme (NPU).

Dr. Luca Nizzetto, PhD, received a SoMoPRO (South Moravian Programme for Distinguished Researchers) grant to further develop his career, research and his team at RECETOX through the 2 year project ANDROMEDE – Anthropogenic and Natural Drivers of Releases and Occurrence of Mixtures of Endocrine Disruptors in the Environment.

In addition, a new 7th EU Framework Project TEMPLE was granted to our researchers (Ms. Klára Hilscherová, Mr. Brano Vrana and Mr. Foppe Smedes) and their teams. Moreover, RECETOX scientists were granted trans-national access to coastal laboratories and facilities (JERICHO, Towards a Joint European Research Infrastructure network for Coastal Observatories) in the Baltic Sea, the Greater North Sea and the Atlantic Ocean as well as in the Mediterranean Sea.

Furthermore, two projects with UNEP on supporting the monitoring of POPs and preparation of the CEE regional report and one project with UNDP on capacity building for PCB management are new to our capacity building project portfolio.

New students at RECETOX

The autumn semester of the academic year 2013–2014 starts on September 16th, 2013. RECETOX will welcome six new students in their 2nd year of a bachelor degree in Ecotoxicology and a total of 28 other masters degree students in either Ecotoxicology, Environmental Chemistry or Computational Biology. In addition, 18 new PhD students start in Ecotoxicology and ten new PhD students in Environmental Chemistry. This will bring the total number of PhD students in the centre to 90 people.

Moreover, six international young researchers join us as post-doctoral fellows thanks to a project by Masaryk University granting jobs for the best young international scientists to develop further international cooperation. The project is provided by the Operational Programme Education for Competitiveness.

Welcome to all and good luck in your studies and research.

New portal – ELSPAC database



In addition to our existing portals – the environmental database GENASIS and data warehouse and portal for global levels of persistent organic pollutants POPsGMP – the most recent core facility of RECETOX, ELSPAC, has been made available online at www.elspac.cz.

ELSPAC (European Longitudinal Study of Pregnancy and Childhood) is a prospective longitudinal study initiated by the WHO (World Health Organisation; European Office in Copenhagen). It has been performed in several European countries by monitoring selected population samples of children and their families from the pregnancy of the mother to at least 19 years of the adolescent's age.

A database containing results of the Czech cohort from the Brno region allows investigation of individual factors (genetics, environment, life style, stress) as well as their combinations for possible association with population health.

RECETOX and the IBA (Institute of Biostatistics and Analyses) worked hard to convert data available in 500 000 questionnaires into an on-line database that is now available to all.





RECETOX news

New Director of the RECETOX Centre

Professor Jana Klánová became the new director of RECETOX on September 1st, 2013. The formal transfer of the directorship took place at the RECETOX assembly on Tuesday September 3rd, 2013 when the former Director of RECETOX, Professor Ivan Holoubek, thanked all for their support in implementing his vision and helping to develop this unique and world famous research centre over last 30 years.

Jana Klánová confirmed that she would continue to drive RECETOX in the same direction as set by Ivan and that she would also focus on implementing the sustainability indicators of the centre in her four-year mandate.

At the same event, the Dean of the Faculty of Science, Mr. Jaromír Leichmann, acknowledged the long term

enthusiasm, hard work and successful efforts in building and developing RECETOX and awarded professor Holoubek the bronze medal of Masaryk University.



Czech Science Foundation Award 2013

Professor Petr Klán, Head of the Photochemistry and Supramolecular Chemistry at the RECETOX centre won a prize from the Czech Science Foundation (GAČR) on September 9th, 2013 in a competition of more than 3000 grants. His project “New Photoactivatable Compounds for Organic Chemistry and Biology” was one of four awarded. Prof. Petr Klán received the award from the Prime Minister of the Czech Republic, Dr. Jiří Rusnok.

We congratulate Professor Klán and his team on this outstanding achievement!

Foto: www.vlada.cz (Czech Government Press Office)



RECETOX-EDUCATION Project Audit

The audit of the RECETOX-Education project supported by the Operational Programme Education for the Competitiveness took place August 7-8, 2013. Jakub Hofman, project leader explained, “Auditors visiting the RECETOX premises acknowledged fulfilment of indicators and project outputs. That is, 14 new courses,

nine practical course manuals, three manuscripts for course books ready to be published as well as textbooks in preparation. The project significantly increases the quality of our curricula in environmental sciences and we should benefit from its outputs over the medium-to-long term.”

Short announcement of arrivals and departures

We are happy to announce the birth children to our young researchers over the summer. Congratulations to Kateřina Nováková on the birth of her son Teodor, to Pavel Babica and Iva Sovadinová on the birth of their daughter Valentýna, to Ondřej Adamovský on his son Hynek and to Adam Jonáš on his son Kryštof.

On the other hand, we are very sad that our colleague and friend, Jaroslav Urbánek, passed away on September 3rd, 2013. Jarek studied and worked with us on analyses of our data. He was 30 years old, and loved sports and travelling in addition to his work. We will miss him a lot.

RECETOX research infrastructure provides OPEN-ACCESS to Czech and international researchers visit www.recetox.muni.cz/RI for the application procedure.
For more information, please, contact Dr. Petra Růžičková, infrastructure coordinator (ruzickova@recetox.muni.cz)



Czech and International Activities in the summer 2013

SONDAR Summer School on Soil Protection

A very intense 2-day summer school for 120 Czech and Slovak experts, officials and students specialized in soil protection was organized by RECETOX under the framework of cross-regional cooperation between the Czech Republic and Austria and the SONDAR project (www.sondar.eu/cz).

The meeting took place from September 2–3, 2013 in the Devět skal hotel near Sněžné. Participants heard contributions and lectures from RECETOX experts,

Ministry of Agriculture, the Central Institute for Supervising and Testing in Agriculture (ÚKZÚZ), the Research Institute on Amelioration and Soil Protection (VÚMOP), the Czech Geological Service and others. Two sessions covered soil protection in the context of the EU agricultural policy and the current situation, and development and research in soil protection. More detailed information on the conference is available on the dedicated website: <http://letni-skola.jtl.cz/>.



9th International Summer School on Environmental Chemistry and Ecotoxicology

The Stockholm Convention Regional Centre at RECETOX in cooperation with the Secretariat of the Stockholm Convention on POPs organized the 9th year of the International Summer School of Environmental Chemistry and Ecotoxicology at the RECETOX premises (A29) from June 24–29, 2013.

Thirty participants from around the world had 6 days of training in POPs, human exposure and biomonitoring. The programme was a balanced mixture of lectures (by 5–10 invited speakers to provide the latest research developments), workshops and laboratory exercises including validated methods, QA/QC standards, preparation and analyses of samples and training in the use of laboratory equipment and other gear for sample collection and handling.

Practical training in laboratories focused on analyses of biologic samples and ecotoxicological bioassays. The traditional trip to the monitoring station in Košetice also took place to allow the participants to get acquainted with the instrumentation and long-term

monitoring programmes that run in Košetice – such as EMEP and MONET. As usual, a number of invited speakers provided very interesting lectures (Martin Scheringer (ETH Zurich, CH), Katarina Magulova (UNEP, Stockholm Convention secretariat), Lubica Paľkovičová (Institute of Health Protection, SK), Milena Černá (National Institute of Public Health, CZ), Irina Zastenskaya (WHO, EHCE Bonn), in addition to about 20 of our in-house experts.

Since 2005, a total of 368 experts from 77 countries all over the world have gained knowledge and expertise from our summer school (about 42 participants/year) and some of them have returned repeatedly.

We appreciate the kind support for several students provided by the Secretariat of the Stockholm Convention (7 participants) and Ministry of Environment of the Czech Republic (4 participants).

Join us and our students next year for the 10th year. We look forward to working with you!





RECETOX Co-organizes Summer School in Ghana

RECETOX provided a one week long intensive training to the Environment Protection Agency staff in Accra, Ghana from July 29th to August 2nd, 2013. Two RECETOX professors, Jana Klánová and Petr Klán, travelled to Accra to lecture and train on persistent organic pollutants, their characteristics, fate, transfer, photochemistry and chemistry on surfaces to 30 participants for a total of 21 hours throughout the week. A significant part of this summer school consisted of training in relation to the monitoring of POPs in the core matrices for the Stockholm Convention on Persistent Organic Pollutants (POPs) in the Global Monitoring Plan. Participants learned many aspects, from

sampling techniques and equipment, extractions, analyses to quality assurance and data management and interpretation. With respect to the forthcoming second data collection for the Global Monitoring Plan, new compounds and new matrices such as water were included. RECETOX has provided its partners in Ghana with a new instrument for active air sampling to improve global coverage of active samplers for measuring POPs (so far no such instrument was in operation in Africa). Part of the summer school was therefore devoted to the acquaintance with and use of the device. The instrument was set in operation during the summer school and functions ever since.



ROG and GCG members in Brno

Experts on monitoring of persistent organic pollutants will meet in the hotel Continental in Brno from September 17–20, 2013. The participants are members of the Regional Organization Groups and of the Global Coordination Group for the Global Monitoring Plan of the Stockholm Convention on persistent organic pollutants (POPs). They come from all five UN regions. The meeting aims to finalize details of the next data collection campaign to obtain levels of POPs in air, breast milk and water (for PFOS) in order to provide information for the 2nd Global Report of the Global Monitoring Plan. This global report will be completed and submitted to the 7th Meeting of the Conference of the Parties to the Stockholm Convention in 2015. The Stockholm Convention Regional Centre in RECETOX therefore is organizing a meeting in cooperation with the Stockholm Convention secretariat to train

ROG and GCG group members in using the GMP data warehouse, the electronic data collection form directly linked to the warehouse, as well as the pops-gmp.org portal.

Welcome to Brno and have a productive meeting.





30th Anniversary Events calendar



Research Centre
for Toxic Compounds
in the Environment

30 years

- 17–19 June 2013 **special workshop – 25 years of Košetice observatory** (*Humpolec, CZ*)
- 23–29 June 2013 **9th international Summer School Environmental Chemistry and Ecotoxicology** (*RECETOX, Brno*)
- 17–19 June 2013 **scientific workshop – Organic Contaminants' Cycling in the Mediterranean** (*RECETOX, Brno*)
- 3–4 July 2013 **International expert workshop – Linking Environmental Quality Standards and Passive Sampling** (*RECETOX, Brno*)
- 29 July – 2 August 2013 **POPs summer school in the Environment Protection Agency of Ghana** (*Accra, Ghana*)
- 8 August 2013 **Laboratories-tour through RECETOX for high-school students** (*RECETOX, Brno*)
- 4–17 August 2013 **international field campaign – Cycling of Semivolatile Organics in the Pannonian Plain** (*field observatories in Kecskemétpuszta and in Bugacpuszta, Hungary*)
- 23–29 August 2013 **POPs in articles and NIP updates – new POPs – workshop** (*Beijing, China*)
- 2–3 September 2013 **summer school – SOIL** (*Devět skal u Sněžného, Czech Republic*)
- 4–6 September 2013 **Czech Pedological Society – conference** (*Devět skal u Sněžného, Czech Republic*)
- 9–13 September 2013 **Sampling of Aquatic Pollutants – training course, TEMPUS project NETREL** (*Banja Luka, Bosnia and Herzegovina*)
- 13–14 September 2013 **Open Science Festival** (*Brno*)
- 17–20 September 2013 **meeting of ROGs and GCG of the Stockholm Convention** (*RECETOX, Brno*)
- 18 September 2013 **Science Café Brno** (*Café Fratelli, Brno*)
- 20–23 September 2013 **25th European Contest for Young Scientists (EUCYS 2013)** (*Prague, CZ*)
- 23–26 September 2013 **5th meeting of the CEE region for SAICM** (*Skopje, fYRoM*)
- 27 September 2013 **Night of Scientists** (*Brno*)
- 30 September – 4 October 2013 **All partners meeting of REFORM project (7FP)** (*Velké Karlovice*)
- 18–22 November 2013 **open doors for ELSPAC participants – one day in the week (exact date TBC)** (*Brno, RECETOX*)
- 6–8 November 2013 **12th International HCH and obsolete pesticides forum** (*Kiev, Ukraine*)
- 13 November 2013 **Week of Science and Technology (Open door day at RECETOX, lectures)** (*Brno, CZ*)
- 18–21 November 2013 **celebrating 30 years of the RECETOX centre** (*RECETOX, Brno*)
- 25–29 November 2013 **meeting of Stockholm and Basel Convention centres** (*Geneva, Switzerland*)
- 26, 27 or 28 November 2013 **One day MONAIRNET workshop I** (*Linz, Austria*)
- November 2013 **DG SANCO knowledge hours (exact date TBC)** (*Brussels, Belgium*)
- November 2013 **RECETOX research for the EU (exact date TBC)** (*Brussels, Belgium*)
- 3 or 4 December 2013 **One day MONAIRNET workshop II** (*Brno, CZ*)

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2007-13
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