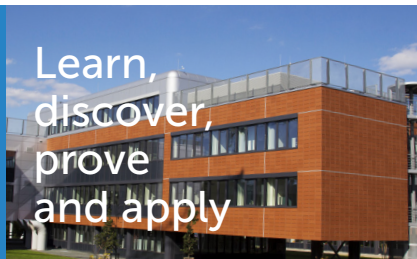




RECETOX NEWSLETTER

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

In this issue

- ▶ Horizon 2020 Project INTERWASTE
- ▶ Use of the RECETOX research infrastructure
- ▶ International Meetings
- ▶ Activities of the Stockholm Convention Regional Centre



Editorial

Dear readers of this quarterly newsletter,

Welcome to this second issue of 2017. We wish to share more of our project news this time, as we have been successful in several calls at international and national level. We were awarded by the RECETOX RI project supported by the European Operational Program Development, Research and Education, which will expand our existing laboratory capacity and will build a bio-bank right next to our current premises. The construction of the new facility will start this year and will be completed in mid-2019.

We have also succeeded in the first phase of the Horizon 2020 “Teaming” call and we were picked among the 30 projects to work on more detailed documentation for the next phase. We are also delighted that the international evaluation of our large research infrastructure received excellent results and we share with you an overview of its current use in 2017. Moreover, there are several of our research and training activities that we have already carried out such as the Czech-Slovak Air 2017 conference in April 2017, presentation of our work at the international conference of the Basel, Rotterdam and Stockholm Conventions in end of April, we supported the adoption of the Ostrava Declaration at the 6th Ministerial Conference on the Environment and Health in the Czech Republic 13–15 June 2017, as well as trained colleagues in Kenya and Ghana in using new air sampling equipment in May. Last but not least, the RECETOX will host the 13th International Summer School on toxic substances in the environment in two weeks which focuses on aquatic pollutants this time and there will be a Central and Eastern European and Central Asian countries mercury meeting held in Brno in July 2017.

Finally, we wish a lot of success to all our students who are about to defend their bachelor, master or dissertation papers and we look forward to meeting our new colleagues who will join us for a doctorate or post-doc in coming weeks.

We wish you all a lovely summer and a pleasant reading,

Katka Šebková
on behalf of all editors in this issue

PS - The RECETOX newsletter is also available automatically if registered through www.recetox.muni.cz or newsletter@recetox.muni.cz. It is published in English and Czech. The next issue will be released in autumn 2017.



Calendar of Events

- ▶ 7–9 June 2017 **Summer school “Tools, Policies and Best Practices for Environmental Protection in the European Union”,** Kiev, Ukraine
- ▶ 11–23 June 2017 **Series of four Explanatory workshops on “Environmentally Sound Management and Final Disposal of Polychlorinated Biphenyls (PCB) in Ukraine”** (Lviv, Odessa, Kharkiv, and Dnipropetrovsk), Ukraine
- ▶ 13–15 June 2017 **6th Ministerial Conference on the Environment and Health, Ostrava,** Czech Republic
- ▶ 20–21 June 2017 **WHO Chemical Risk Assessment Network Meeting, Parma,** Italy
- ▶ 25–30 June 2017 **13th International Summer School at RECETOX Brno,** Czech Republic
- ▶ 10–12 July 2017 **Explanatory workshop on “Environmentally Sound Management and Final Disposal of Polychlorinated Biphenyls (PCB) in Ukraine”,** Kiev, Ukraine
- ▶ 11 July 2017 **UNIDO workshop on chlor-alkali process,** Brno, RECETOX
- ▶ 12–13 July 2017 **Central, Eastern European and Central Asian countries consultations prior COPI of the Minamata Convention on Mercury,** Brno, RECETOX
- ▶ 16–20 July 2017 **13th International Conference on Mercury as a Global Pollutant,** Providence, USA
- ▶ 20–25 August 2017 **37th International Conference Dioxin 2017,** Vancouver, Canada
- ▶ 11–15 September 2017 **Training of laboratory experts from Republic of Macedonia (fYRoM)** Brno, RECETOX
- ▶ 4–9 September 2017 **Malaysian decision makers study visit in the Czech Republic**
- ▶ 23–29 September 2017 **1st meeting of the Conference of the Parties to the Minamata Convention on Mercury,** Geneva, Switzerland
- ▶ 6–7 November 2017 **Annual meeting of the Stockholm and Basel Regional Centres,** Barcelona, Spain
- ▶ 7–9 November 2017 **Expert meeting for update of the GMP guidance,** Brno, Czech Republic



Our Projects

Horizon 2020 Projects at RECETOX

RECETOX has been quite successful in bidding for new projects in the Horizon 2020 framework. There are seven projects currently at RECETOX (ELIXIR, ERA-Planet, HBM4EU, ICARUS, NaToxAq, OBESOGENS and INTERWASTE). We are gradually introducing each project in our newsletters, and this time we turn to the INTERWASTE, which will provide international mobility to our researchers.

Project INTERWASTE



I N T E R W A S T E

The full title of the project is “Synergising International Research Studies into the Environmental Fate and Behaviour of Toxic Organic Chemicals in the Waste Stream” (734522). The overall objective is stimulating innovation by means of cross-fertilisation of knowledge and it was funded under the Horizon 2020 SCA-RISE - Marie Skłodowska-Curie Research and Innovation Staff Exchange (RISE).

The project consortium consists of 10 partners from 6 EU member states and Norway, it is coordinated by the University of Birmingham, and the Czech Republic is represented by the Masaryk University (RECETOX) and Suez Využití zdrojů private enterprise.

The overall vision of the INTERWASTE is to develop scientific understanding of issues related to environmental contamination with toxic and/or hazardous organic chemicals (specifically flame retardants (FRs) and pharmaceutical and personal care products (PPCPs)) arising from their presence in the waste stream.

This will be achieved by a co-ordinated programme of collaboration and 87 research secondments totalling 224 researcher months between world-leading research groups both within and outside the EU coupled with four annual research workshops to discuss the latest findings. In addition, the INTERWASTE will exchange best practice in the analytical

chemistry techniques and evaluate the analytical capability of the consortium via the inter-laboratory comparison.

To achieve its overall vision, INTERWASTE has four strands of research activity.

These are:

- **Strand 1** – Characterising and developing understanding of emissions/flow of FRs in the waste stream and their environmental impacts
- **Strand 2** – Waste water epidemiology applied to consumer chemicals (PPCPs and FRs)
- **Strand 3** – Exploring the potential utility of in vitro techniques to elucidate uptake by biota (e.g. bioaccessibility) of FRs present in the waste stream, along with the pathways and rates of degradation/metabolism of such FRs, and
- **Strand 4** – Exploitation of state-of-the-art analytical techniques to help address issues tackled in strands 1-3), coupled with promotion of contaminant measurement quality and harmonization

Specific research objectives include: (a) exchange of knowledge of and best practice in methods for rapid and cost-effective identification of waste items containing restricted FRs; (b) developing scientific understanding of environmental contamination due to processing of waste items containing FRs; and (c) furthering understanding of the sources of PPCPs and FRs in the sewerage system.

INTERWASTE’s research and training programme is complemented by communication activities that will both disseminate project findings to scientific stakeholders, and engage the general public.

Cytostatika Project

On request of hospitals and hospital pharmacies from all over the Czech Republic, RECETOX implements a long-term contract research project of national monitoring of risks of carcinogenic pharmaceuticals in the working environment. The project supervised by RECETOX in cooperation with the Masaryk Oncology Institute in Brno (MOI) involves 31 workplaces that collected more than 1000 samples to study surface contamination by cyclophosphamide, platinum cytostatics or fluorouracil. More than 2000 performed analyses to date indicate significant health risks to nurses and carers stemming from the occupational exposure at workplaces applying cytostatics to patients such as hospitals or day-care centres.

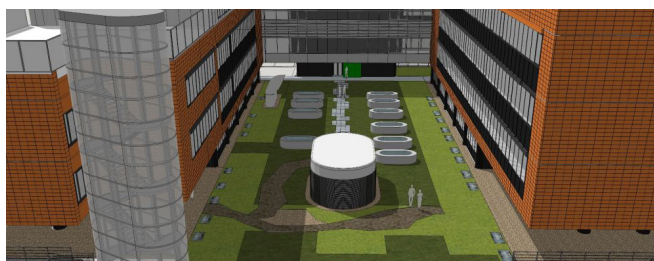
The main risks identified are increased risk of reproductive disorders or the development of tumors.

Further to our sample analyses, our collaboration with MOI also results in risk mitigation measures and procedure proposals to be used at workplaces concerned. More details about our work is available at www.cytostatika.cz





New Biobanking Facility and Comprehensive Research



New laboratories and biobank for storage of environmental and human samples will be built by the RECETOX in the Bohunice Campus, right next to its current seat in pavilion A29 as shown in the image. The work is supported by the EU Operational Program Research, Development, and Education and the resulting facility will allow researchers and students to study complex environmental effects on humans and to unveil role of such factors in the development of increasingly frequent chronic illnesses.

Epidemiological research is based on a long-term observation of large groups of people. The researchers monitor their lifestyle, what they come to contact with, how much of the substances accumulate in their tissues, and, if relevant, how these substances interact with human genes. For this research blood, urine, or saliva samples from the study subjects are needed. These bodily fluids are processed and stored in small quantities so that they can be used in future research.

The samples require not only perfect storage conditions, but also meticulous labelling and robotic manipulation to prevent human errors. The biobank to be constructed at the University Campus Bohunice will provide all of that. There will be new laboratories as well as fully automated storage areas.

New Projects at RECETOX

Since the beginning of 2017, the Research Council of Norway supports a joint four-year project to monitor health risk of novel organic pollutants generated during the bio-waste recycling. This project is a follow up of a cooperation established between the RECETOX and the Norwegian University of Natural Sciences (NMBU) through student mobility grants supported since 2015. Teams of prof. Roland Kallenborn (NMBU) and associated professor Pavel Čupr (RECETOX) will jointly implement the project **Novel Organic Pollutants from Recycling of Organic Waste as Risk Factors for Human Exposure**, NovelPol, ES577371).

Another international project to which RECETOX has been involved since March 2017, is the **New Sampling Tools for Heritage & Emerging Pollutants to facilitate GES assessment in the Marine Environment** (BR/143/A2/NewSTHEPS) supported by the Belgian Science Policy (BELSPO) and the Flemish Hercules Foundation. The NewSTHEPS project sup-

ports the implementation of the Marine Strategy Framework Directive by developing new approaches and techniques. It solves the current basic scientific and methodological issues related to the implementation of the GES – the good status of the marine environment – for Descriptor 8, which targets to ensure that concentrations of pollutants are not at levels that cause polluting effects. Foppe Smedes implements the project at RECETOX.

“To determine the impact of a contaminated environment on humans, it is not enough to measure the concentration of pollutants in the air, water, food, or home. You need to find how and in which quantities such pollutants accumulate in the human body and what do they do there. Such data can only be obtained through long-term observation of selected population groups,” says Jana Klánová, the director RECETOX centre, about the project objective. “We will look for early indicators of the development of chronic diseases, which can be used in the future for early diagnosis of disease development and prevention,” said Klánová.

The current lab capacity of RECETOX, which serves to measure a broad range of toxic substances in the environment and human tissues, will be extended to include laboratories for the study of substances natural to the human body, such as metabolites, which can reveal a lot about how an organism functions and reacts. The new labs will also serve to study the human microbiome – the community of microorganisms found on human skin and mucous membranes or in the mouth and intestine, which can influence the response of the immune system.

However, even now the researchers, in collaboration with the Brno University Hospital, are reaching out to pregnant women at the Department of Obstetrics and Gynaecology to form a new group of subjects for long-term observation targeting 10 000 participants. See more at CELSPAC:TNG (Central European Longitudinal Study of Pregnancy and Childhood: The Next Generation. Experts from the RECETOX centre will work on this study together with other Masaryk University researchers (Faculty of Medicine, Faculty of Science, Faculty of Social Studies, and Faculty of Sports Studies) as well as researchers from other universities and research institutions both home and abroad.

Adapted by using online.muni.cz sciencenews by Ema Wiesnerová

ports the implementation of the Marine Strategy Framework Directive by developing new approaches and techniques. It solves the current basic scientific and methodological issues related to the implementation of the GES – the good status of the marine environment – for Descriptor 8, which targets to ensure that concentrations of pollutants are not at levels that cause polluting effects. Foppe Smedes implements the project at RECETOX.

Finally, the implementation of a new SoMoPro project, VLAMBA – **Visible light-activated Photocaged Molecules for Biological Applications** started in May 2017. This project is a three-year reintegration grant for Peter Štacko returning to the team of professor Petr Klán at RECETOX from a very successful doctorate in the team of Ben Feringa (Nobel Prize in chemistry).

RECETOX Research infrastructure in 2017

The RECETOX Research Infrastructure (RRI) is a research platform for implementation of interdisciplinary projects in environmental science, epidemiology, biomedicine, and bioinformatics using state-of-the-art facilities and equipment, excellent expertise and providing a broad range of services. It supports operation of long term environmental and population studies, analyses of a broad range of anthropogenic and natural toxins in environmental matrices or in biological tissues, as well as the development of complex software tools for management, analysis, interpretation, and visualization of available data. The RRI provides open access (free of charge) to Czech and international researchers and experts to work on their projects and use the expertise and instrumentation available in our Centre and it presents its open access strategy for 2017 below:

Open-access Strategy 2017

The aim of the strategy is to open up the RRI core facilities, hosted by the Masaryk University, to a broader range of external users with interesting scientific projects coming from all over the world in a series of quarterly calls with deadlines **31 March 2017**, **30 June 2017**, **30 September 2017** and **31 December 2017**.

The applicants may apply for the laboratory capacity and come in person; they may also use the full service of the Trace Analytical Laboratories or request a remote access to available data.

Three documents have to be submitted electronically by each applicant: (i) application form, (ii) applicant's CV, (iii) detailed description of the proposed project, requested capacities or data, and expected outcomes. However, please note that the applicant is a student or a junior scientist a fourth document is needed – a recommendation letter from the senior researcher/supervisor is requested as well. The completed application form and all accompanying documentation shall be sent electronically to openaccess@recetox.muni.cz for further evaluation.

Use of the RECETOX RI in 2017

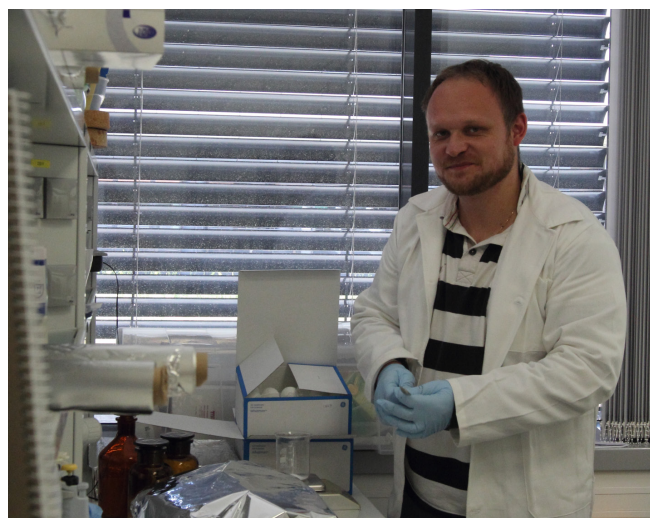
12 external researchers (11 international) visited the RECETOX Research Infrastructure in person via open access between January and June 2017. Additional eight scientists (international) used capacities of the RRI for analyses of their samples or data.

Currently, there is Ms. América Rebeca Metzdorff Gallegos from Italy, using capacity of the Trace analytical laboratories and studying the transport of the brominated flame retardants (BFR) to Antarctica by analyzing possible local and remote sources and to obtain levels of different BFRs and novel-BFRs using methodologies established at RECETOX for different samples collected. In addition, there is also Dr. Grzegorz Kosior from Poland, who returns to use RECETOX's Trace Analytical Laboratories capacity repeatedly. This time he analyzes PCBs and PBDEs in samples of moss and of ambient air collected by passive sampling.

All received project proposals will be evaluated every three (3) months in a two-stage process. In the first step, a technical feasibility of the proposed project is assessed by the head of the respective core facility or research programme. In the second step, a quality of the proposal is evaluated by an expert panel based on the project description and a CV of applicant. External and internal users comply with the same conditions, but the application which is simplified for the internal researchers (no CV and recommendation letter needed).

Should a proposal be evaluated positively, project applicants will be invited immediately to come and conduct their experiments. The costs of access to the infrastructure facilities are covered by the Ministry of Education, Youth and Sports of the Czech Republic.

Last but not least, acknowledgement of the RI support is required in all published outcomes of the open-access projects. Furthermore, all necessary information about the applications, available equipment and RRI services is on the website: <http://www.recetox.muni.cz/RI>.



Grzegorz Kosior in RECETOX laboratories



RECETOX News

This section provides brief information on papers, events, social life and other issues relating to RECETOX.

RECETOX in brief

We are happily announcing that a number of our staff recently extended their families. Congratulations to Michaela Hylsová to her son Ondřej, Tomáš Koláček to his second daughter Amálie and Jana Klánová and Petr Klán who welcome their first granddaughter, Matylda.

New offices and staff

While the majority of RECETOX stay in the pavilion A29, two other research programs are located in A8 and A12 of the Bohunice University Campus. As the centre received a new project to build a new biobanking facility, we are temporarily moving out teams who will be operating the biobank since 2019. They will move out to INBIT building next door (Kamenice 34) in the summer. Consequently, our adminis-

trative and project support teams will also be consolidated at the A29 level 4 – please see changes on the office doors. In addition, there are three new colleagues – Hana Hrabalová and Michaela Kalabusová joined our project support team and Jan Ostrřížek will be dealing with external relations and project proposals.

RECETOX Research Outputs

In 2017, there are almost 50 RECETOX papers published now and quite a few others are also in press. Please find enclosed a selection of six published ones showing a breadth of our research:

1. Cechova, E., Scheringer, M., Seifertova, M., Mikes, O., Kroupova, K., Kuta, J., Forns Guzman, J., Eggesbo, M., Quaak, I., de Cock, M., van de Bor, M., Palkovicova Murínová, L., Kocan, A. Developmental neurotoxicants in human milk: comparison of levels and intakes in three European countries. *Science of the total Environment* (2017), 579, 637-645.
2. Fiala, T.; Ludvikova, L.; Heger, D.; Svec, J.; Slanina, T.; Vetrakova, L.; Babiak, M.; Necas, M.; Kulhanek, P.; Klan, P.; Sindelar, V. Bambusuril as a One-Electron Donor for Photoinduced Electron Transfer to Methyl Viologen in Mixed Crystals. *Journal of the American Chemical Society* (2017), 139 (7), 2597-2603.
3. Liskova, V.; Stepankova, V.; Bednar, D.; Brezovsky, J.; Prokop, Z.; Chaloupkova, R.; Damborsky, J. Different Structural Origins of the Enantioselectivity of Haloalkane Dehalogenases toward Linear β -Haloalkanes: Open-Solvated versus Occluded-Desolvated Active Sites. *Angewandte Chemie International Edition* (2017), 56, 4719-4723.
4. Piler, P.; Kandrnl, V.; Blaha, L. Critical assessment of the research outcomes of European birth cohorts: linking environmental factors with non-communicable diseases. *Public Health* (2017), 145, 136-145.
5. Smutna, M.; Priebojova, J.; Vecerkova, J.; Hilscherova, K. Retinoid-like compounds produced by phytoplankton affect embryonic development of *Xenopus laevis*. *Ecotoxicology and Environmental Safety* (2017), 138, 32-38.
6. Vojta, S.; Becanova, J.; Melymuk, L.; Komprdova, K.; Kohoutek, J.; Kukucka, P.; Klanova, J. Screening for halogenated flame retardants in European consumer products, building materials and wastes Article reference. *Chemosphere* (2017), 168, 457-466.

Visit GENASIS, Environmental Database Portal



...and use its data browser at www.genasis.cz to find out more about levels of toxic chemicals around us!

The GENASIS (Global ENvironmental ASsessment Information System) created in cooperation of RECETOX with IBA MU – institutes of Masaryk University, Brno, Czech Republic – provides comprehensive information on chemical contamination of the environment, namely on persistent organic pollutants (POPs).

The system combines expertise, validated data from partner institutions, and input from regular environmental monitoring programmes. Users and data providers get secure data repository, sophisticated analytical tools, and comfortable data management and visualization.

A sister database is used globally under the Stockholm Convention and showcases an overview of global levels of POPs at www.pops-gmp.org.

Our recent activities

Open Day at the Košetice Observatory

The Czech Hydrometeorological Institute (CHMI) organized an Open Day at all its professional workplaces on Saturday 25 March 2017. The event was organized to support the World Meteorological Day and World Water Day. The weather also cooperated and the event attracted good crowds.

Košetice observatory at Vysočina highlands welcomed over 130 visitors who were interested in the range of the activities performed at the CHMI – meteorology and climatology, hydrology of surface and underground waters, and clean air protection. RECETOX experts presented ACTRIS-CZ Research Infrastructure activities, explained work with our monitoring equipment used in the MONET program as well as provided explanations to many questions.

Air Conference 2017

On 10th - 12th of April 2017, the Air 2017 Conference was held at the Santon Hotel. The 13th conference on atmospheric pollution and its consequences was organized by the RECETOX Research Infrastructure of Masaryk University in cooperation with the Czech Hydrometeorological Institute and the Center for Global Change Research (CzechGlobe).

The meeting was addressed to environmental workers, industrial workers, universities, research institutes, business managers, students, and all who have an interest in air protection issues.

More than 100 participants of the conference listened to and attended lectures on the state of air pollution and its monitoring, sources of air pollution, pollution of the indoor environment, atmospheric particles, atmospheric aerosols, sampling and emission analyzes, ambient air and deposition, as well as legislative aspects and measures. The program was

completed with a social evening. The aim of the conference was to contribute to the exchange of experience and new knowledge, to establish new contacts and to support scientific, professional and commercial meetings and the preparation of joint projects.

We thank all conference participants for their participation, active contributions and creating a pleasant atmosphere. We acknowledge our sponsors for their support and we look forward to meeting you all at the 14th conference in 2019.



FireProt 1.0 server is released

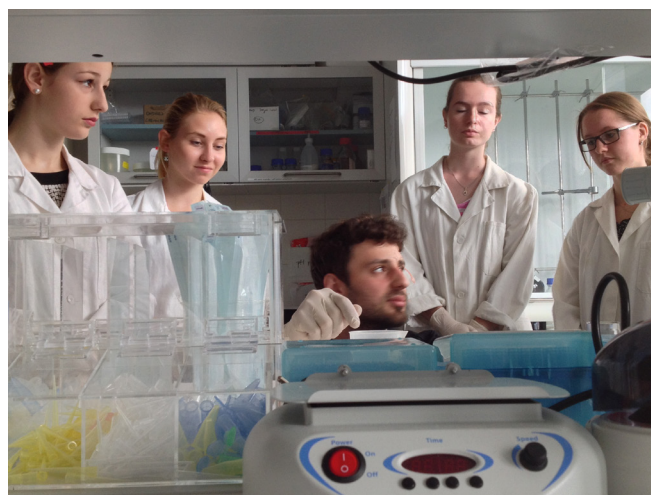
FireProt 1.0 is a web server providing a robust computational strategy for predicting highly stable multiple-point mutants, which combines energy- and evolution-based approaches with smart filtering to identify additive stabilizing mutations. Within its workflow, FireProt integrates sixteen computational tools, utilizing both sequence and structural information in the process. The web server provides users with a one-stop-shop solution for the design of thermostable proteins, constructed by three strategies: (i) evolution-based approach, utilizing back-to-consensus analysis; (ii) energy-based approach, using conservation, correlation, and energy information and (iii) combined approach.

FireProt can be applied to any protein for which a tertiary structure and homologous sequences are available, and will facilitate the rapid development of robust proteins for biomedical and biotechnological applications. The following publication is already available on the internet: Musil, M., Stourac, J., Bendl, J., Brezovský, J., Prokop, Z., Zendulka, J., Martinek, T., Bednar, D., Damborsky, J., 2017: FireProt: Web Server for Automated Design of Thermostable Proteins. *Nucleic Acids Research*.

And for more details please see: <http://loschmidt.chemi.muni.cz/fireprot/>

T-Excursions for high school students in RECETOX

At the beginning of June, more than twenty high school students from South Moravian secondary schools visit the RECETOX Centre in T-Excursions organized by the South Moravian Centre for International Mobility (JCMM). During a one-day course, students under the guidance of Ph.D. ecotoxicology students Jan Raška and Ondrej Brózman will learn about cell cultures, basics of toxicology, pharmacology and principles of drug development. Students will also learn how to work with cell cultures and perform crucial steps in evaluation of unknown compound's toxicity.





Activities of the Stockholm Convention Regional Centre

The Stockholm Convention Regional Centre in the Czech Republic (SCRC) hosted at RECETOX continues to provide support to other countries and regions, in particular in relation to monitoring, sampling and analyses of toxic chemicals in the environment and in capacity building activities.

Upcoming events

RECETOX summer school

13th session of the International Summer School on Toxic Substances in the Environment at RECETOX will be held in our premises from 26 to 30 June 2017. This summer school is organized by the RECETOX research infrastructure in cooperation with the Stockholm Convention Regional Centre in the Czech Republic, Ministry of Environment of the Czech Republic and UNEP/BRS Secretariat. The meeting provides



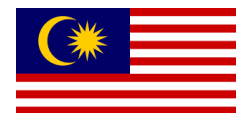
both theoretical and practical training to its participants and also awards ECTS credits. The key topic of 2017 is toxic substances in the aquatic environment.

CEECA Mercury Consultations and UNIDO workshop

Central and Eastern Europe and Central Asia regional consultations in preparation for the first meeting of the Conference of the Parties to the Minamata Convention on Mercury will be held in the RECETOX premises in Brno, Czech Republic, from 12 to 13 July 2017. The invitation to the meeting was dispatched to 23 countries of the CEE region and 6 Central Asia countries. In addition, a regional workshop on the Minamata Convention and other Chemicals and Waste management Conventions takes place on 11 July 2017 in Brno, back-to-back to the regional preparatory meeting. This workshop, organized by UNIDO with the financial support of Switzerland, will focus on the environmentally sound management of mercury waste and the potential to address it with a regional and broader approach, also taking into account the management of e-waste. In addition, the management of mercury in industries, such as chlor-alkali and cement production, will be addressed.

Malaysian study visit

Follow-up to the successful expert mission from the Czech Republic to Malaysia will take place in early September through a visit of the Malaysian expert team including the National Focal Point to Czech Republic to visit ministries, institutions and RECETOX to experience the coordination mechanism of the national implementation of the Stockholm Convention on Persistent Organic Pollutants in the Czech Republic. We look forward to your visit, dear friends!



Past events

Capacity Building Activities in Africa

The Stockholm Convention Regional Centre and Trace Analytical Laboratories of the RECETOX Centre organized a targeted laboratory experts training in at the University of Nairobi, Kenya to further strengthen capacities for POPs analyses. Petr Kukučka and Roman Prokeš focused on sample treatment and analyses of the extracts by GC-MS, in particular for brominated flame retardants. Despite rather frequent power outages, the training was successfully completed in its original scope and all participants benefited from the presence of the two RECETOX experts for a full week and a series of the training materials. Asante, Kenya for your great hospitality and eagerness to absorb maximum of the available expertise.

In addition, a feasibility study testing new active sampler for ambient air using the solar power is currently ongoing at two sampling sites, in Chiromo, Nairobi, Kenya and at the Ghanaian Atomic Energy Commission in Kwabene, Legon, Ghana.



Solar active sampler by Baghirra working in Nairobi



The new sampler was developed by the Czech company Baghirra and if tested positively, it may be a viable alternative to the standard active air sampler in tropical climate. Furthermore, water samples from at least five sites were collected in both Kenya and Ghana, to characterize urban and rural environments of the both countries. Collected samples will be analyzed for levels of fluorinated POPs and for pesticides.

Summer school in Ukraine

“Tools, policies and best practices in environmental protection in the European Union: Challenges for Ukraine” summer school took place at the National Institute of Food Technologies in Kiev, Ukraine 7–8 June 2017. It was supported by the Jean Monnet module and Kateřina Šebková from SCRC was the main lecturer in the meeting.

Almost fifty participants from state authorities and local government, manufacturing, public organizations, teachers, researchers and students were introduced to political and legal principles of the functioning of the EU, EU environmental policy and requirements for quality and food safety in Ukraine and the EU.



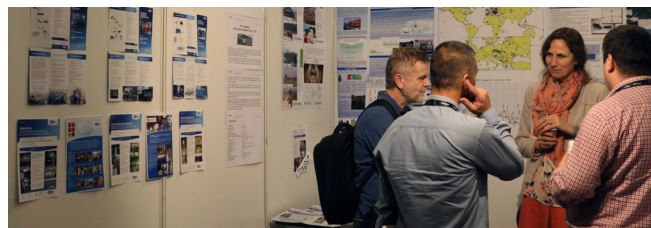
RECETOX in Geneva

Meetings of the conferences of the parties to the Basel, Rotterdam and Stockholm conventions were held in the Varembe Geneva International Conference Centre back to back from 24 April to 5 May 2017. The theme of the meetings and the high-level segment was "A future detoxified: sound management of chemicals and waste". Almost 1,400 delegates from 170 countries managed to add chemicals to the annexes of the Stockholm Convention (decaBDE and short-chain chlorinated paraffins (SCCPs) in Annex A and hexachlorobutadiene (HCBD) in Annex C) and Rotterdam Convention (4: carbofuran, trichlorfon, short-chain chlorinated paraffins (SCCPs) and tributyltin), to welcome report of the effectiveness evaluation to the Stockholm Convention, to give mandate to work on reducing marine plastic litter and to establish a new partnership on household waste and promote information exchange from science to action.

RECETOX was involved in three events – Technology Fair – where we presented our research, facilities, monitoring and tools regarding toxic chemicals in the environment, as well as information on activities of some of our Czech partners – Dekonta, Baghirra and Suez Environment whose works supports detoxifying our environment. Secondly, there was our evening side event entitled "New tools and approaches in monitoring of POPs and of emerging pollutants" held on Thursday 27 April 2017. The side event pro-

vided the news on the latest developments in the field of POPs monitoring – disseminated information about the current EU joint activity comprising 26 countries working on harmonizing human biomonitoring activities and outcomes in Europe (HBM4EU), then discussed needs for new tools and approaches for monitoring of emerging chemicals as well as POPs in new matrices and last but not least to introduced AQUA-GAPS initiative monitoring pollutants in water globally and screened a training video on passive sampling of water to build capacity in Stockholm Convention Parties.

Finally, Karla Pozo, RECETOX researcher presented her work entitled "New environmental burdens – new POPs and their alternatives in the environment" aiming at raising awareness on PFC levels found in the environment in the GRULAC region from past/current uses and residues of alternative PFCs – in particular in Chile, Argentina and Brazil through a focus talk and in a poster available in our booth.



© All rights reserved. Reproduction is authorised provided the source is acknowledged. RECETOX newsletter is a quarterly by the Research Centre for Toxic Compounds in the Environment (RECETOX centre), volume V, issue 2/2017, June 2017. Up to 4 issues per year.

RECETOX newsletter is published and electronically distributed by RECETOX, Kamenice 753/5, Brno, 62500, Czech Republic. www.recetox.muni.cz; if interested in receiving the newsletter automatically, please let us know here: newsletter@recetox.muni.cz. This is also a contact to express your views and ideas.

Editors: Kateřina Šebková, Petra Růžičková, Luděk Bláha and Jitka Sedláčková

Design: Radim Šustr

Typesetting: Markéta Soukupová

Photos without credits are from the RECETOX archive

Contact: Kateřina Šebková (editor in chief), phone: +420 549 493 063, sebkova@recetox.muni.cz

Publication of this RECETOX newsletter has been supported by the Ministry of Environment of the Czech Republic

NOT FOR SALE