Research Centre
for Toxic Compounds
in the Environment

VOLUME IV | NUMBER 2/2016 | MAY 2016

RECETOX NEWSLETTER

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

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

Editorial

Dear readers of this quarterly RECETOX newsletter,

Welcome to spring-summer issue. You'll read about the outcomes of the REFORM project supported by the 7th EU framework program for science and research in 2011–2015 (FP7), on final achievements of the DA VINCI project implemented together with the Norwegian Agency for Air Research (NILU). Moreover, Professor Lammel`s team will showcase results of an investigation of POP fluxes in the Aegean Sea and a glimpse of applied research will also be provided. The Technology Agency of the Czech Republic provides funding to the Technology Transfer Office of Masaryk University (TTO) in the Gama programme. TTO supports a project executed by RECETOX and ASIO Ltd. on the development of a feasibility study for new technology for reversible osmosis.
We would also like to introduce you to our new colleagues and sum up the stays of those who leave us and therefore we have a new section "RECETOX on the move" in the newsletter. This time we introduce Professor Martin Scheringer, and provide a space to Pernilla Carlsson, our post-doc, for evaluation of her stay at RECETOX, as she moves on to work in the Fram research center, Tromsö of the Norwegian Institute for Water Research (NIVA). Others "on the move" – joining us or leaving us in late 2015 or 2016 will be featured in next issues.
Finally, we would like to underline success in the recent project proposals calls – two more Horizon 2020 projects were launched at RECETOX in 2016, one in February (ERA-Planet) and one in June (ICARUS). In addition, Klára Hilscherová and her team just received a project on participation in international training networks of the EU (ITN), post-doc Ondřej Adamovský's project is in the top 3 of the prestigious Marie Curie-Sklodowska call and Zdena Moosová received a Fulbright fellowship.

We wish you pleasant reading and plenty of success in the tests and exams at the end of the semester or at the closure of your studies. Have a joyful and relaxing summer everyone,

Katka Šebková
on behalf of all contributors towards 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 early autumn 2016.

Calendar of Events

- 18–20 May 2016 **Remediation Technologies Conference,** Třeboň, Czech Republic
- 20 May 2016 **21st Meeting of Council of National Centre for Toxic Compounds,** Prague, Czech Republic
- 20 May 2016 **Meeting of the Czech panel on European Initiative for Human Biomonitoring,** Prague, Czech Republic
- 31 May–2 June 2016 **10th GEO European projects workshop "Fostering Open Earth Observation for Europe"**, Berlin, Germany
- 6 June 2016 **Excursion of Opava Grammar School students to RECETOX,** Brno, Czech Republic
- 7–8 June 2016 **Expert meeting on interlaboratory assessment of POPs Laboratories,** Geneva, Switzerland
- 13–18 June 2016 **12th International Summer School on Toxic Compounds, RECETOX premises,** Brno, Czech Republic
- 25–30 June 2016 **4th Summer School of Protein Engineering, Loschmidt Laboratories, RECETOX,** Brno, Czech Republic
- 6–8 July 2016 **Kick-off workshop in support of GEF/UNEP capacity building project supporting Global Monitoring Plan of POPs in Africa,** Accra, Ghana
- 3 October 2016 **Meeting of Global Monitoring Plan Coordination Group,** Geneva, Switzerland
- 4–7 October 2016 **2nd meeting of the Effectiveness Evaluation Group under the Stockholm Convention,** Geneva, Switzerland

Research Centre
for Toxic Compounds
in the Environment

Overview of RECETOX research projects

REFORM – Restoring Rivers

Kněhyně River

The REFORM (REstoring rivers FOR effective catchment Management) project started in 2011 as a five-year project supported by the EU 7th Framework Programme (one of eight such FP7 project that were implemented at RECETOX). The international project aimed at research supporting revitalization of river ecosystems, required involvement of interdisciplinary teams, and comprised 27 institutions from 16 European countries.

The project aimed at dissemination of information about environmental and socio-economic aspects of the revitalization of hydromorphological characteristics of the watercourses. The Czech Republic investigated flood-induced renaturations at pilot sites of the Morava and Bečva rivers. Data from Morava and Bečva and those from nine other revitalization projects were used in the assessment of environmental impacts induced by structurally-procedural changes of fluvial ecosystems. The indication ability of various biological matrices in river biota (invertebrates, vegetation, fish) was compared with revitalization parameters. The results can be used in development of methodologies for assessing the effects of revitalization (optimizing time-space arrangements of sampling, indicator components and metrics, interaction with other factors – stressors, climate change).

In addition to Czech data inclusion into the international network of case studies, the RECETOX research team (K. Brabec, M. Kalivodová, K. Komprdová, L. Kohut) also evaluated the response of river macroinvertebrates (as shown in Figure 1) to the revitalization of small streams (data sets were provided by Czech Water Research Institute – VÚV TGM). The output was a description of the relationship between the indicator metrics and changed environmental factors. This study was followed by a pilot study on the revitalized part of Kněhyně river (see Figures 2–4). Pilot results showed biota relations to hydraulic and substrate conditions in the river bed, and the importance of secondary river beds and of floodplain pools on the biodiversity in revitalized parts of the rivers/streams. The RECETOX team organized one of the five annual Partner meetings in September 2013. Seventy participants also visited the pilot site on the Bečva River. The Czech Republic participated in the project through experts of Masaryk University as well as other institutions. Project results were disseminated to experts and water managers at an annual conference in the second half of 2015. Participants from Povodi – water management, Water Research Institute (VÚV TGM) and the Czech Agency for Nature Conservation and Landscape (AOPK) discussed the possibility of using the project outputs in water management at the national level.

The project also revealed the distribution of heavy metals in river habitats and matrices in the Czech Republic. Such information is relevant for assessing the effects of multiple stressors. Interaction between stressors has been further analyzed at different spatial scales in the pilot catchment of the Morava River in a dissertation. The Czech project team so far participated in preparation of four articles in peer-reviewed international journals and more are in the pipeline.

More information about the project is on the website **www.reformrivers.eu**

Measurement of river flow characteristics and revitalization after intervention

Macrozoobentos

Applied research – Reverse osmosis

RECETOX has been working on technology modification of flat-sheet membrane reverse osmosis since mid-2015. It is a promising method for treatment of aqueous samples for determination of the occurrence of and extent of contamination by organic pollutants including endocrine disruptors. The method can separate water as well as other undesirable low molecular weight substances, such as dissolved salts. By using this new technology, the complex nature of an aqueous sample is preserved and can be directly used for in vitro testing using cell lines.

The investigator of the project at RECETOX is Michal Bittner, Ph.D. and the prototype of technology optimization has been developed in cooperation with ASIO, Ltd in Brno. Advances in optimization were presented at the ASIO booth at the Research, Science and Innovation Fair in Brno, Czech Republic on 9–11 March 2016. The proof of concept for this optimization is provided by a project of the Technology Transfer Office of Masaryk University (TTO) supported by the Technology Agency of the Czech Republic in the program Gama.

Laboratory model – reverse osmosis

Outputs of the Mediterranean field experiment

In July 2012, a coordinated field experiment on cycling of persistent organic pollutants (POPs) in the marine environment of the Aegean Sea was conducted and coordinated by prof. Gerhard Lammel from RECETOX. Four Greek, two Turkish and one German research institution took part in the study. A total of 500 air and water samples have been analyzed in three laboratories, half of it at RECETOX. The analysis of the field data is still on-going, however two scientific articles on contamination of the Aegean Sea are published, most recently in 'Atmospheric Chemistry and Physics' (see below) and three other papers are in preparation.

Except for the urban and industrialized areas, the Aegean is found to be somewhat less exposed to chlorinated substances than 1–2 decades ago, a consequence of long-term downward trends of primary emissions in Europe. However, at the same time the compartmental burdens have been shifting, such that now more hazardous substances are returned from the surface waters to the atmosphere. The team, for the second time, ever could quantify the air-sea exchange flux of POPs at a coastal site (amounts of up to few µg/m²/day for individual polycyclic aromatic hydrocarbons, organochlorine pesticides and polychlorinated biphenyls, on the Island of Crete, see figure 2) and for the first time ever could confirm the oscillation of these pollutants' vertical fluxes at the sea surface (see figure 1).

Sampling site at the Aegean Sea, north coast of Crete, photo by Gerhard Lammel

A large amount of data is on substances and their transports and transformations which had never been addressed before in the region. Atmospheric modelling was further developed, such that the contributions of various sources to individual air samples can now be tracked and quantified over days and hundreds of kilometers.

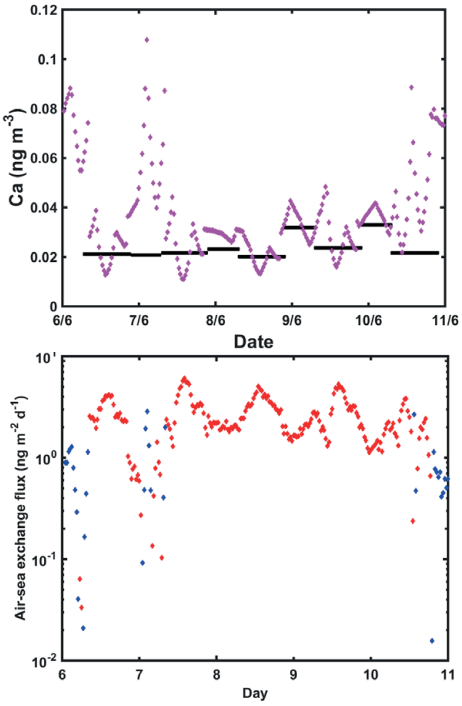

Figure 1. top: Predicted (purple) and observed (black) concentrations (ng m^{-3}) and bottom: predicted diffusive air-sea exchange fluxes, F_c, (red upward and blue downward, ng m^{-2} d^{-1}) of PCB28 off the Cretan north coast 6–10 July 2012.

Cooperation with Norway

DA VINCI Project Completed

We had already mentioned the progress in implementation of the DA VINCI project (DAta Visualization, INterpretation and Comparison Improvements for organic pollutants in long-term monitoring networks, EHP-CZ02-OV-1-059-01-2014) aimed at strengthening scientific cooperation between Norway and the Czech Republic in the last issue of the newsletter.

This project, supported by grants from the EEA and Norway, is now completed. Its main output is open access to information on environmental contamination to the public and civil sector in two formats. One represents the inclusion of data from Czech and Norwegian active and passive monitoring networks into the primary environmental data repository and portal GENASIS (www.genasis.cz) and the second one is a global portal for aggregated data of the Global Monitoring Plan (www.pops-gmp.org). To allow joint handling and interpretation of data from different sources and networks, it was necessary to carry out a range of controls and calculations by comparing existing long-term data, and also to make new short-term field studies. These experiments were aimed at studying comparability of different types of active samplers and of various sampling periods, the effect of various climatic conditions, as well as degradation of contaminants inside the sampling apparatus.

Another project outcome is a closer cooperation between both partner organizations resulting into joint project submissions and papers. The partners have collaborated in the project preparation for EEA/Norway Funds call and ERA NET (ERA PLANET). Finally, the two institutions signed a Memorandum of Understanding on mutual cooperation between RECETOX and the Norwegian Institute for Air Research (NILU).

Finally, the Norwegian research team arrived to the Czech Republic in early April to share experience in use and adaptation of laboratory methods, discuss further cooperation in data exchange and finalize more joint publications. Moreover, a joint international workshop was held at RECETOX on 4 and 5 April 2016, where the combined project team presented outcomes of the project to professionals, national, regional and local authorities, and the general public in the Czech Republic.

The presentations of this final workshop of the project are available online at http://davinci.recetox.muni.cz/index.php?pg=vystupy-zaverecny-workshop

Signature of the Memorandum of Understanding, L-R: Jana Klánová (RECETOX) and Kjetil Tørseth (NILU)

The project team from both countries

Cooperation RECETOX and NMBU

RECETOX succeeded in the call for projects in the programme of cooperation between schools and scholarships – Projects of institutional cooperation – supported by Norwegian and EEA grants in June 2015. The project "Young Researchers – educate, discover, perform and apply in environmental sciences" (NF-CZ07-ICP-3-242-2015) started in September 2015. It is a space for almost a year long (9/2015 – 7/2016) intensive cooperation between Masaryk University and the Norwegian University of Life Sciences (NMBU) focused on environmental chemistry and ecotoxicology.

Both institutions have already started exchange of experience and mutual learning in the form of short-term stays in infrastructure of both partners including participation in research teams. Four junior researchers at RECETOX won a mobility grant in an internal call for proposals for their travel to Norway in the spring and a group of Norwegian researchers will come to RECETOX in June to take part in the RECETOX summer school and use of laboratory infrastructure. The aim of this cooperation is the preparation of joint long-term projects and joint publications, however the most important benefit for RECETOX is young scientists from both countries working together to strengthen their personal and scientific development.

RECETOX on the move

RECETOX has 20% international staff; their share in scientific positions represents 34% and is likely to increase even more in near future. That is why we are introducing a new section to the newsletter where we wish to regularly showcase our new colleagues and give space to those who leave RECETOX for other institutions in other countries. This time we introduce Martin Scheringer and provide a space to Pernilla Carlsson to assess her stay at RECETOX, as she leaves us to work at NIVA, in Tromsö, Norway. Other researchers joining or leaving RECETOX in late 2015 or early 2016 will be showcased in the next issues.

Joining us: Martin Scheringer

Profesor Martin Scheringer, photo by Peter Rüegg / ETH Zürich

In November 2015 Martin Scheringer joined RECETOX as a professor of environmental chemistry at Masaryk University. Martin is a chemist by training and holds a doctoral degree in environmental chemistry from ETH Zürich, the Swiss Federal Institute of Technology in Zürich, Switzerland. He has worked extensively on the environmental fate of persistent organic pollutants (POPs) with a focus on their persistence and potential for long-range transport.

In his work, Martin develops and uses multi-media environmental fate models; these models make it possible to integrate a wide range of processes – transformation and degradation, phase partitioning, transport via wind and water – into a "big picture" of a chemical's circulation in the environment. Using a global model of this type, Martin was able to reconcile a wide range of laboratory data on degradability of the pesticide endosulfan as well as measurements of the environmental occurrence of endosulfan when this chemical was under evaluation for the Stockholm Convention on POPs in 2009. This process led to the global ban of endosulfan in 2011 and is a nice example of the transfer of knowledge from science to policy.

Martin has also developed pharmacokinetic models for POPs in the human body. These models are useful in different ways. First, they mechanistically connect intake of a chemical, for example via food, with the elimination of the chemical from the body and make it possible to calculate the resulting body burden. Second, they can be used to back-calculate the intake from measurements of the body burden, as they become increasingly available from human biomonitoring data. Third, pharmacokinetic models can be used to disentangle and understand different time trends of POPs in human biomonitoring data, including population cross-sections (concentration vs. age) and population trends (time trends of POP concentrations in blood or milk of the same sub-group of the population, for example first-time mothers between 25 and 30 years). Population trends can be especially challenging to interpret and Martin and his colleagues from ETH Zürich just published recommendations for the interpretation of this type of data in Environmental Health Perspectives (Gyalpo et al. 2016, http://dx.doi.org/ 10.1289/ehp.1510219). In addition to his scientific work, Martin is also interested in the science-policy interface. He is a co-founder and the current chair of the International Panel on Chemical Pollution, IPCP (www.ipcp.ch) and contributed to UNEP's 5th Global Environment Outlook, GEO-5. Finally, in 2015 Martin became an Associate Editor of the journal Environmental Science & Technology published by the American Chemical Society.

What led Martin Scheringer to join RECETOX?
"I have regularly lectured at RECETOX since 2005 in the annual summer school. There is a very productive and stimulating environment, and I look forward to new collaborations and projects within the Centre". Martin`s main activity at RECETOX will be the development of pharmacokinetic models.

Moving on: Pernilla Carlsson

Pernilla Carlsson, photo by Magne Hestem

Pernilla Carlsson joined RECETOX as a post-doc (see March issue of 2015 newsletter) attracted by good instrumentation, available expertise and a project supporting stays of young international researchers at Masaryk University. She worked in the team of Associate professor Branislav Vrana (chemistry in the aquatic environment) on the development of methods for water and biota passive sampling for analyses of toxic chemicals and also cooperated with non-target analyses on HPLC-QTOF. For that, she went to Norwegian Institute for Air Research (NILU), Oslo to collaborate with Dr. Pawel Rostkowski.

What does the stay at RECETOX mean to Pernilla?
She says: "I will certainly use the acquired expertise and contacts in my new permanent position as a junior scientist at the Norwegian Institute of Water Research (NIVA). I return to the north, I will work in the Fram Centre in Tromsø, in a collaborative project with RECETOX about new flame retardants in the Arctic (FlammePlank). The analytical expertise gained in RECETOX will be very useful within this project, as well as the expertise on passive sampling in air and water. My time in the

aquatic chemistry group gave me new knowledge about passive sampling and I hope to continue collaboration with RECETOX in other future projects I am very glad for my network of good colleagues and friends, especially my colleagues from the aquatic chemistry group: Jitka, Tanya, Krzysztof, Foppe and Branislav. RECETOX has a good international reputation and it was a good choice for my further career. I would also like to mention the support that I received before and after the arrival, especially from human resources at RECETOX, Veronika Jálová, who helped with documents and logistics of the stay. It was a very welcoming environment at RECETOX, although the language was (and still is) a big issue. Thankfully, friends helped out when I needed to sign documents, translate information and others, whether for business or pleasure. "

What would she say to others about Brno?
"After almost six years in Longyearbyen, Svalbard, it was time to move to a new place and learn something new at another institute. When I told friends and colleagues in Sweden/Norway that I was moving to Brno, Czech Republic, the things they knew about Brno were (except good beer) that the "tractor Zetor" and shotguns (Zbrojovka) were produced here. But Brno is a very nice city, few tourists and relaxed environment. I will try to show others that it is a good place for work and life.

In addition, there are also nice opportunities for small walks during the weekends in the South Moravia area, with nice, small villages on the road. The trail system on www.mapy.cz with marks that are found out in the nature and along the roads are very handy too.
Nevertheless, some of the best trips I have had here have been to Slovakia. I love mountains and Slovak High Tatra mountains are not too far away from Brno; it takes about one day with trains to get there. Very nice mountains for hiking and I wish I would have had more time there for climbing. Moreover, diving in the Guláška lake (Senec, Slovakia) was also very nice."

RECETOX research infrastructure provides OPEN ACCESS to Czech and international researchers to work on their projects and use the expertise and instrumentation available in our Centre.

A rolling call for 2016 is now open!

Visit www.recetox.muni.cz/RI for the application procedure and information on our services.

For more information, please contact Dr. Petra Růžičková, infrastructure coordinator (ruzickova@recetox.muni.cz).

RECETOX News

This section brings a range of miscellaneous short texts – new publications, awards, and information on forthcoming or past events.

Most influential article of Microbial Cell Factories

The highest Altmetric score (number of sharing and amount of hits on various platforms) for the publication by Dvořák, P., Chrást, L., Nikel, P. I., Fedr, R., Souček, K. Sedláčková, M., Chaloupková, R., de Lorenzo V., Prokop, Z., and Damborský, J., 2015. Exacerbation of Substrate Toxicity by IPTG in Escherichia Coli BL21(DE3) Carrying a Synthetic Metabolic Pathway. Microbial Cell Factories, London: BioMed Central, 2015, vol. 14, no. 201, p. 1-15. ISSN 1475-2859. DI 10.1186/s12934-015-0393-3) ranked it the most influential article of 2015 in the Microbial Cell Factories Journal. Congratulations to Professor Damborský team!

University for Children – MjUNI 2016

Courses at Masaryk University for Children (MjUNI) took place again in the spring term. The training, held on 12 March 2016, was organized in collaboration with the Faculty of Science at the modern University Campus in Brno Bohunice. The day was filled with chemical and biological experiments in laboratories, magic fires, meeting with the living and stuffed animals, using microscopes and much more. Staff of the Loschmidt laboratories and Protein Engineering research programme was in charge of the biotechnology part of the curricula.

Photo by Faculty of Science, Masaryk University

Seminar on intellectual property rights and protection

The project support team at RECETOX and Technology Transfer Office of Masaryk University (TTO) organized a joint seminar on intellectual property protection and commercialization of research outputs at Masaryk University, held on Friday, April 29, 2016 at RECETOX premises.
A half-day seminar brought to our staff and other participants insight into new ways of protecting intellectual property, overview of legal instruments, and examples of good practice from the experience of Masaryk University. „We think that dealing with this question at the university makes good sense, because the research outputs created here are really of interest – both

for the society and for the commercial potential that such inventions (can) exhibit," said Radoslav Trautmann, business development manager at the TTO.

SECRA – New certification for professionals

The Society of Environmental Toxicology and Chemistry (SETAC) started a new training program SE-CRA, SETAC Europe Risk Assessors Certification Programme, providing an internationally recognized standard and certification for environmental risk assessors. More information is available here: http://certification.setac.eu/?contentid=956. Two RECETOX researchers are involved in this activity. Associate Professor Jakub Hofman is a member of the Registration Committee that approves the scientific content of training courses in the program curricula and Professor Luděk Bláha is a member of the SE-CRA Certification Judgement Panel, which assesses the quality of individual candidates before issuing the certificate.

Tomáš Slanina awarded

The Rector of Masaryk University, Dr. Mikuláš Bek, recognized the successes of 18 of the best students and researchers of Masaryk University in 2015 at the Dies Academics ceremony in kino Scala, Brno on 11 May 2016.
We are proud that for the third year in a row a representative of our Centre received the award. This time, our PhD graduate Tomáš Slanina received the Award for outstanding Ph.D Thesis. Congratulations!

Tomáš Slanina (left) receives Award for outstanding Ph.D Thesis from Mikuláš BEK, Masaryk University Rector, photo by online.muni.cz

RECETOX in Brief

We are happy to announce that a number of our young staff expanded their families this spring. We would like to congratulate Barbora and Jakub Javurek on the birth of their son Teodor, Pavlína Lolloková gave birth to daughter Tánička, Klára Šmídová enlarged her family with a second son Jiří, and Petra Dorociaková welcomed son Jan.

Activities of the Stockholm Convention Regional Centre

RECETOX will participate in an international assessment of laboratories

The 3rd round of the "Biennial Interlaboratory Assessment of POPs Laboratories" – IL2016-POP will take place in July 2016. RECETOX Laboratories of Trace Analyses were invited to take part due to their long term support of the Global Monitoring Plan of the Stockholm Convention on persistent organic pollutants (POPs), operation of the MONET networks, and due to endeavors to harmonize sampling and analytical procedures globally to achieve comparable results.

The assessment will focus on analyses of POPs listed in the convention until 2013 and on hexachlorobutadiene in naturally contaminated samples – sediment, fish, human milk, air extract, human blood (plasma) and surface water and in standard solutions.

The work is managed by the Chemicals and Waste Branch of the United Nations Environment Programme (UNEP) and technically supported by the Man-Technology-Environment (MTM) Research Centre, Örebro University, Sweden and the Institute of Environmental Studies (IVM), VU University, Amsterdam, the Netherlands.A workshop for laboratory coordinators takes place in Geneva on 8 June 2016.

Research Centre
for Toxic Compounds
in the Environment

Activities of the Stockholm Convention Regional Centre

12th International Summer School at RECETOX

The National Centre for Toxic Compounds, the Stockholm Convention Regional Centre, in collaboration with the large research infrastructure RECETOX organize the 12th International Summer School on Toxic Substances in Brno, Czech Republic, 13–17 June 2016. Its key topic are releases of toxic substances into the indoor environment (not to the work environment, but rather residential environment) and methods of their determination, transfer, and assessment of their impacts on human health. In addition to renowned European and in-house lecturers, a group of Norwegian researchers from NMBU will also lecture in the meeting. Their participation is covered by the institutional cooperation with NMBU (see section „New project with Norway"). Last but not least, we gladly acknowledge that the Ministry of Environment of the Czech Republic continues to support capacity building in the countries of Central and Eastern Europe and kindly provided funding for participation of one representative of Moldova, the former Yugoslav Republic of Macedonia and from Armenia.

We wish all the participants a good time at the 12th Summer School at RECETOX!

Capacity building on mercury

In 2016, the Regional Centre of the Stockholm Convention in the Czech Republic is involved in three activities on mercury. It hosted a regional meeting on 3 to 4 February 2016 for Central and Eastern European and Central Asian countries in preparation for the 7th meeting of the Intergovernmental negotiating committee on mercury. The meeting on the RECETOX premises was attended by 40 delegates from 17 countries of the region (including six EU countries).

In addition, there are also two projects with the European Centre for Environment and Health (ECEH, Bonn) of World Health Organization (WHO). In the first case, RECETOX was responsible for preparation of a training module, "Introduction to human biomonitoring" for e-learning in the context of harmonization of biomonitoring of human exposure to mercury. The result should be available at the WHO website in mid-2016.

The second activity is the support provided by RECETOX to UNEP/WHO pilot project "Development of a Plan for Global Monitoring of Human Exposure to Environmental and Concentrations of Mercury," implemented in seven pilot countries (China, Mongolia, Kyrgyzstan, Russia, India, Ghana and Costa Rica) in 2015–2016. There will be a coordinated sampling campaign in each country to take samples of hair, umbilical cord blood and urine of 250 mothers during the summer of 2016. SCRC RECETOX, via its Laboratories of Trace Analyses, provides laboratory support to Ghana, Russia and Costa Rica and is the reference laboratory for the mercury analysis in umbilical cord blood and urine of mothers. There will be also a mirror analysis of 10% of the samples in reference laboratories.

Finally, WHO in cooperation with project partners conducted a capacity building training for laboratory technicians and national coordinators of the sampling in pilot countries. This training was held in the Jozef Stefan Institute, Ljubljana, Slovenia 8 to 11 February 2016. Therein, Jan Kuta, RECETOX expert, shared our experience in mercury analyses in the environment and some case studies.

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, Jakub Hofman, Jiří Damborský, Gerhard Lammel, Karel Brabec and Lisa Melymuk

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