



# RECETOX NEWSLETTER

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

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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 fulfils 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

- New projects
- Horizon 2020
- Our international mobility to Norway
- Activities of the Regional Centre



## Editorial

Dear readers of this quarterly newsletter,

As this is right at the start of the new academic year, we would like to welcome in particular our new students and colleagues who joined RECETOX in summer 2016 and wish them all the best for the new academic year or for settling down in their new work teams. This newsletter showcases the experience of our cooperation with Norway, the Norwegian University of Life Sciences (NMBU), experiences from individual mobility grants to Norway and introduces new projects.

Our monitoring activities continue on two continents and we would also like to bring your attention to our contribution to research taking place on board of a sailing ship and point out our new publications.

We have been working hard in the first half of this year to prepare large project proposals in and we managed to complete five big rounds of calls to under the Operational Programme Research, Development and Innovation (OP VVV). New paths to excellence are now on the table in new visions, new infrastructures as well as in new research teams. We do not know the calls' outcome yet, but we would like to announce that we currently hold six Horizon 2020 projects, including two International Training Networks (Klara Hilscherová and Protein Engineering group), ERA-NET, ICARUS, ELIXIR, and OBESOGENS.

We wish you a nice reading, colourful autumn and some fun in getting new knowledge in the lectures and courses from our experts,

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](http://www.recetox.muni.cz) or [newsletter@recetox.muni.cz](mailto:newsletter@recetox.muni.cz). It is published in English and Czech. The next issue will be released in in the end of 2016.*



## Calendar of Events

- 13–15 September 2016 **Europe Biobank Week, Biobanking for Health Innovation**, Vienna, Austria
- 15 September 2016 **Special Open Door Day at the Faculty of Science**, Brno, Czech Republic
- 17 September 2016 **ACTRIS Open door day**, Košetice, Czech Republic
- 16–23 September 2016 **POPRC12, meeting of the POP Review Committee**, Rome, Italy
- 27 September 2016 **Brno – health days, RECETOX lecture**, Mendel library, Brno, Czech Republic
- 26–27 September 2016 **East Asian workshop – POPs monitoring, Incheon**, Republic of Korea
- 30 September 2016 **Science Night**, Brno, Czech Republic
- 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
- 20 October 2016 **22nd Meeting of Council of National Centre for Toxic Compounds, Ministry of Environment**, Prague, Czech Republic
- 31 October – 1 November 2016 **ACTRIS consortium workshop, Košetice observatory, Czech Republic**
- 31 October – 2 November 2016 **Annual meeting of directors of Basel and Stockholm Regional Centres**, Geneva, Switzerland
- 2 November 2016 **Annual workshop of export and import of hazardous chemicals**, Prague, Czech Republic
- 3 November 2016 **Day of national research infrastructures, ELI**, Dolní Břežany, Czech Republic
- 8–10 November 2016 **Air protection in the National Administration, Třebíč**, Czech Republic



## Our cooperation

### New H2020 projects at RECETOX

We were quite successful in bidding for new projects in Horizon 2020 framework. There are five projects currently at RECETOX (ELIXIR, OBESOGENS (Marie Skłodowska-Curie Action), ERA-PLANET and ICARUS). In addition, Klára Hilscherová received an International Training Network project (NaToxAq) that will bring new PhD students from abroad to RECETOX. We will introduce these projects one by one in our newsletters, starting with the ICARUS project.



#### ICARUS

Jana Klánová, its principal investigator at Masaryk University told us: "This project was submitted under the heading Horizon 2020 Climate action, environment, resource efficiency and raw materials (Societal Challenges) call H2020-SC5-04-2015 in 2015. The project started in June 2016 for four years and it is implemented by a large consortium of 18 institutions from 9 countries (8 EU and Switzerland). The name ICARUS stands for the Integrated Climate Forcing and Air Pollution Reduction in Urban Systems.

The work will be carried out in ten work packages and Masaryk University is involved in many of them. Our contribution will comprise the use of monitoring networks, emission and fate modeling in connection with impact assessment of many emission reduction policy scenarios at the urban scale, training and population exposure and health impact assessment. Moreover, the city of Brno was chosen as one of case studies and it also opens new opportunities for further international cooperation".

The main goal of the project is the development of integrated tools and strategies for assessing impacts of the city transportation network on the urban air quality. The project should quantitatively review effects of the current national and local politics on emissions and air quality and estimate future impacts of such policies and moves on human health and wellbeing.



### Project Young Researchers – wrap up

We have already provided the first information about our RECETOX-NMBU – Norwegian University of Life Sciences – project (Young Researchers – educate, discover, perform and apply in environmental sciences, NF-CZ07-ICP-3-242-2015) in the previous issue. The project is now completed and we would like to provide you with concluding information.

May and June 2016 brought a series of intensive exchanges of knowledge and mobility stays between RECETOX and NMBU. In early May, the four best young researchers from the internal call at RECETOX, Lucie Bielská, Mária Chropeňová, Zdena



Moosová and Zuzana Nováková, went to Norway to get a boost in their career for a total of eight weeks (all together). Their stays focused on exchange of expertise, on acquiring new knowledge, and involvement in relevant research teams at NMBU to further strengthen career opportunities and accelerate future cooperation with NMBU.

Similarly, four NMBU students spent two weeks each (eight weeks in total) at RECETOX in June. They were involved in RECETOX teams that matched best their NMBU expertise to broaden their knowledge on RECETOX activities in the field and learn new skills and techniques. Moreover, they could choose to participate in the RECETOX International Summer School in their second week.

Furthermore, three invited lecturers from Norway – Dr. Ian Allan (Norwegian Institute for Water Research), Dr. Amrit Sakhi Kaur and Dr. Cathrine Thomsen (Norwegian Institute of Public Health) – lectured at RECETOX in June and had consultation slots available. This was greatly appreciated because in addition to great lectures the RECETOX research teams had the opportunity to discuss detailed technical issues with the lecturers, and could also collect ideas for future cooperation. Moreover, three members of the RECETOX project support team went to Norway in May for a study trip to the NMBU, NIVA and NILU project development offices to actively seek for new opportunities of collaboration, mobility, transfer of technology and joint projects and they came back full of ideas and contacts.

In conclusion, this collaborative project was a real success – it contributed to sharing knowledge, enlarged the capacity of all partners involved and planted new ideas for future collaboration between MU and NMBU, as well as with other institutions that opened their doors to our staff. There are several papers submitted, joint project proposals and inter-institutional cooperation is ongoing.

← RECETOX project support coordinators, Zdena Moosová and two Norwegian colleagues



## EEA grants follow up – international mobility at the north

A total of three RECETOX students and researchers received an individual project from Norwegian funds or EEA Grants to support their international mobility in 2016. As all of them are back with us now, we asked for a brief summary of their stay and a message to others. Find below what they had to say:



**Dr. Karel Brabec** (researcher at RECETOX): *“I utilized the opportunity of the Norway Grant mobility project to stay one month (May–June) at two Norwegian research institutes – Norwegian University of Life Sciences (NMBU, Ås) and at the Norwegian Institute for Water Research (NIVA, Oslo). Discussions with Dr. Nikolai Friberg and Prof. Susanne Schneider extended my knowledge about evaluation of multiple-stress effects in freshwater ecosystems. I learned about approaches applied in the MARS project (field experiments, biological indicators). I presented my research activities and achievements at NIVA at a lunch seminar (the lunching audience was a totally new experience to me!). I also visited NIVA’s field station with outdoor and indoor facilities for freshwater and marine water experiments. I also worked on papers and one manuscript is already submitted and three others are far advanced now.”*



**Jana Vašíčková** (PhD student): *“I got the opportunity to spend two months at the Faculty of Mathematics and Natural Sciences, University of Oslo. I worked under the supervision of Professor Hans Peter Leninaas, Professor Katrine Borga and Professor Ketil Hylland, all being experts in the biology of soil invertebrates, toxicology and bioaccumulation of toxic compounds in the food webs. Within my stay, I contributed to a research project focusing on soil contamination and detection of DNA damage in soil invertebrates living in the vicinity of birds colonies. Seabird migration to the Arctic contributes to long-range transport of persistent organic pollutants as seabirds accumulate persistent pollutants which are then transferred underneath bird cliffs with the bird’s guano. My main professional benefit was getting to know and work on optimization of the Comet assay, which allows for detection of DNA damage in soil invertebrates. I will transfer the acquired knowledge into the standard operation procedure manual used at RECETOX. My research stay in Norway was a very positive experience. In addition to new scientific experience, I appreciated the friendly group of people and pleasant atmosphere at the workplace.”*



**Zuzana Bílková** (PhD student): *“At the end of year 2015, I got a Norway and EEA grants for individual mobility. I chose a stay at the Norwegian University of Life Sciences (NMBU) near Oslo. The NMBU university campus is located in a small city of Ås 36 km from capital city Oslo. My internship focussed on gaining new expertise on HPLC/MS working with biological samples. I worked at the faculty of Food Safety and Infection Biology under the supervision of Helene Thorsen Rønning. I worked in a team on optimization of a method for determination of steroid compounds. I am very thankful for the opportunity to be abroad, in another laboratory, experience another modus operandi of the laboratory and I am grateful for the cooperation with my international colleagues.”*



Visit [www.genasis.cz](http://www.genasis.cz) and use the data browser 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 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 visualisation. A sister database is used globally under the Stockholm Convention and showcases an overview of global levels of POPs at [www.pops-gmp.org](http://www.pops-gmp.org).





## RECETOX News

### New electronic tools released

#### HotSpot Wizard 2.0 released

A new version of a web server for automated identification of “hot spots” and design of smart libraries was released in June 2016. HotSpot Wizard 2.0 implements four different established protein engineering strategies, enabling the user to selectively target sites affecting the protein’s stability and catalytic properties. The server should be useful for protein engineers interested in exploring the structure of their favorite protein and for the design of mutations in site-directed mutagenesis and focused directed evolution experiments. Compared to its predecessor, HotSpot Wizard 2.0 introduces several major improvements and a new graphical interface. Detailed information can be found on the homepage <http://loschmidt.chemi.muni.cz/hotspotwizard/> and in the publication: Bendl, J., Stourac, J., Sebestova, E., Vavra, O., Musil, M., Brezovsky, J., Damborsky, J., 2016: HotSpot Wizard 2: Automated Design of Site-Specific Mutations and Smart Libraries in Protein Engineering. *Nucleic Acids Research* 44: W479–W487.

#### PredictSNP2 released

PredictSNP2 is an ensemble-based classifier for prediction of the effect of nucleotide substitutions. PredictSNP2 enables to identify disease-related SNP within the whole genome. Similarly to PredictSNP1, the results of five existing best-performing tools (CADD, DANN, FATHMM, FunSeq2 and GWAVA) are combined by two-level weighted consensus approach. To provide a comprehensive evaluation of variants, the predictions are complemented with annotations from eight databases. The prediction tool is located on the website <http://loschmidt.chemi.muni.cz/predictsnp/> and described into the detail in the publication: Bendl, J., Musil, M., Stourac, J., Zendluka, J., Damborsky, J., Brezovsky, J., 2016: PredictSNP2: A Unified Platform for Accurately Evaluating SNP Effects by Exploiting the Different Characteristics of Variants in Distinct Genomic Regions. *PLOS Computational Biology* 12: e1004962.

### Echoes of the 4th Summer School on Protein Engineering

The Loschmidt Laboratories organized the 4th (biannual) Summer School on Protein Engineering from 26–20 June 2016. The summer school was attended by twenty secondary-school and university students interested in biology, biochemistry, bioinformatics and biomedicine. The program comprised theoretical introductory lectures and hands-on laboratory practice. Topics covered were searches in bioinformatics databases, computer design of biomolecules, construction of mutants using molecular biology techniques, structural and biophysical determination of protein properties, and lab-on-chip technologies. Successful graduates received a certificate and study credits (Bi9280). The photo gallery and detailed information can be found on the summer school website <http://loschmidt.chemi.muni.cz/school/>. We look forward to our next round in two years!



### A call for cooperation

RECETOX research infrastructure provides OPEN ACCESS to Czech and international researchers and experts to work on their projects, use expertise and state of the art instrumentation available at RECETOX laboratories and in other facilities of the research infrastructure.

There is a permanent rolling call for applications on cooperation or for the use of the research infrastructure facilities.

Visit [www.recetox.muni.cz/RI](http://www.recetox.muni.cz/RI) for the application procedure.

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

RECETOX  
Research Infrastructure



## Student Awards

**Daniel Pluskal** won 1st prize in Chemistry in the national round of the secondary school students expert competition (SOČ) with his project “*Analysis of catalytic amino acids of a haloalkane dehalogenase, a luciferase, and their reconstructed ancestor*”.

**David Bednář** became one of five nominated finalists at the Interdisciplinary Meeting of Young Biologists, Biochemists and Chemists in the field of biochemistry/biology. He presented “*FireProt, a robust computational strategy for predicting highly stable multiple-point mutants*”.

**Zuzana Dunajová** and **Lukáš Daniel** received Dean's Awards in 2016 for their outstanding theses “*Development of fluorescent substrates for enzymology applications*” and “*Molecular modeling of enzymes' substrate specificity*”.

**Veronika Lišková** and **Tomáš Buryška** received Dean's Awards for publication activities. Tomáš Buryška has been also awarded a FEMS grant for his planned research stay at TU Vienna.

Moreover, **Tomáš Slanina**, who graduated with his PhD under the supervision of Professor Petr Klán received several awards for his excellent work. The Rector of the University awarded him in May 2016, then he received Experientia Foundation Post-Doctoral Fellowship ([www.experientia.cz](http://www.experientia.cz)) in 2016 in support of the basic research in chemistry for an year-long research stay at the Goethe University in Frankfurt, in the group of Professor Alex Heckel and last but not least, he was also awarded the Prize for PhD Thesis in Photochemistry for the best PhD thesis. Congratulations!

Finally, **Michaela Belháčová**, doctoral student in Branislav Vrana's group (Environmental Chemistry) won the Taylor and Francis Award at the ISEAC39 (International Symposium on Environmental Analytical Chemistry) Conference in Hamburg, Germany (19–22 July 2016). She won best poster prize for her work entitled “*Pore water and accessible concentrations of hydrophobic contaminants in Danube river sediments estimated by multi-ratio equilibrium passive sampling*”.

Congratulation to all winners and awardees!

Michaela Belháčová at ISEAC39



## Open call for Trans-National Access

(TNA) to Research infrastructure Košetice–Křešín u Pacova, Czech Republic within ACTRIS-2 and ACTRIS CZ projects. The ACTRIS RI offers access to several types of measurements (aerosols, vertical gradient of GHGs, air quality, meteorology and precipitation).

Detailed information is available at [http://cas.icpf.cas.cz/Actris/TNA\\_ACTRIS\\_Kosetice.pdf](http://cas.icpf.cas.cz/Actris/TNA_ACTRIS_Kosetice.pdf), or by e-mail with Adéla Holubová Šmejkalová, email: [adela.holubova@chmi.cz](mailto:adela.holubova@chmi.cz).

Application procedure for interested users is described at <http://www.actris.eu/DataServices/ObservationalFacilities/ApplyforTNA.aspx>





## RECETOX on the move

RECETOX has 20% international staff and that is why there is a “chapter” in our 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 re-introduce Celine Degrendele and provide a space to Christos Efstathiou to bid us farewell on his way to the USA for work at the US EPA. Other researchers joining or leaving RECETOX in 2016 will be showcased in the next issues.

### Re-joining us: Céline Degrendele



Céline Degrendele is French, got her first degrees in France, but she also used all opportunities to broaden her knowledge and expertise in other countries. Over the years she also studied and worked in the United Kingdom, Canada and in the Czech Republic. She worked at RECETOX on her PhD supported by the International Training Networks project between 2011 and 2014 with Professor Jana Klánová. Having successfully defended her thesis on the fate and analysis of POPs in the atmosphere, with a special focus on the particle size distribution of POPs and other emerging contaminants and its implications for human risks and atmospheric transport in 2014, Celine moved on to Germany for her post-doc. And this is what she says about her time there:

*“In 2015, I joined Max Planck Institute for Chemistry in Mainz, Germany as a postdoctoral researcher in the team of Prof. Gerhard Lammel. There, I worked on some experimental data about air-soil exchange of semi-volatile organic compounds at a Central European receptor area, investigating its diurnal variations and the influence of soil properties. Moreover, I discovered the interesting but challenging world of box modelling of air-soil exchange that I have applied to India over 50 years (1965–2014). By being a member of one of the world leading institutes on atmospheric research, I did enjoy increasing my knowledge in fields of atmospheric sciences not related to POPs. I particularly appreciated the support to attend conferences on environment and chemistry but also one on the integration of the gender dimension in science and research.”*

Celine returned to RECETOX In May 2016 as researcher and she describes her work as follows: *“I am currently involved in two different projects: ICARUS and ACTRIS. Within ICARUS, I will help to perform a study in Brno to assess primary emissions of PAHs related compounds from traffic. Within ACTRIS, I will work on the comparison of daily and weekly levels of PAHs, PCBs and OCPs as well as on the assessment of the seasonal variations and gas-particle partitioning of POPs and other emerging contaminants. Furthermore, depending on my personal situation, I am highly considering to apply for a junior grant with the Czech Science Foundation.”*

### Moving on: Christos Efstathiou



Christos joined RECETOX as the first international post-doc in early 2011. He worked in the team of Professor Gerhard Lammel on models and trajectories of chemicals transported by air over long distances. Here is what he sends as his farewell to RECETOX and other colleagues in the Czech and Slovak Republic:

*“Dear colleagues,*

*As some of you know, some time ago I left my beloved Brno and Czech Republic to cross once more the Atlantic and start working on USEPA projects. I would like to thank all of you for the warm welcome five years ago and for broadening my cultural and scientific horizons. Special thanks to Professors Jana Klánová and Gerhard Lammel for offering the post-doc position, Ivan Holoubek for easing my moving in and renting his place to me, and Ludek Bláha for his genuine smile and funding. Being the first foreign postdoc, I hope I put my small special stone into the RECETOX international structure. Also, many thanks to the Floorball, Tennis, and Foreigner teams for helping me maintaining a healthy body and mind according to the ancient Greek standards and for the inspiring conversations...you will certainly be missed!*

*Finally, I want to thank some true hidden heroes: Tom and Martin at the department of Computer Science, and Jana Matějovičová, a big heart at Slovak Hydrometeorological Institute!*

*I wish you all the best in your lives and careers. I am sure somehow our paths will meet again.”*



## RECETOX news

### RECETOX in brief

We are happily announcing that a number of young researchers extended their families by children in the course of this summer. Congratulations to Veronika Mlčáková on her twin daughters Gabriela and Silvie, Zdenka Bednářová on her son Matyáš, Vojtěch Příbyla on his son Matyáš, Lisa Melymuk and Ondřej Sáňka on their daughter Alexandra, and Klára a Jirka Komprdovi on their second son Martin.

### RECETOX research outputs

In 2016, RECETOX scientists published more than 60 articles, one EU patent and one EU policy report. Below find a selection of articles that were published in prestigious international journals in 2016 so far:

- Holt, E., Kocan, A., Klanova, J., Assefa, A., Wiberg, K. Polychlorinated dibenzo-p-dioxins/furans (PCDD/Fs) and metals in scots pine (*Pinus sylvestris*) needles from Eastern and Northern Europe: Spatiotemporal patterns, and potential sources. *Chemosphere* (2016), 156, 30–36.
- Lammel, G., Meixner, F. X., Vrana, B., Efstathiou, Ch. I., Kohoutek, J., Kukučka, P., Mulder, M. D., Příbylova, P., Prokes, R., Rusina, T. P., Song, G. Z., Tsapakis, M. Bidirectional air-sea exchange and accumulation of POPs (PAHs, PCBs, OCPs and PBDEs) in the nocturnal marine boundary layer. *Atmospheric Chemistry and Physics* (2016), 16 (10), 6381–6393.
- Jusko, T. A., De Ross, A., Lee, S. Y., Thevent-Morisson, K., Schwartz, S. M., Verner, M., Palkovicova Murinova, L., Drobna, B., Kocan, A., Fabisikova, A., Conka, K., Trnovec, T., Hertz-Picciotto, I., Lawrence, B. P. A birth cohort study of maternal and infant serum PCB-153 and DDE concentrations and responses to infant tuberculosis vaccination. *Environmental Health Perspectives* (2016), 124, 813–821.
- Jarque, S., Bittner, M., Blaha, L., Hilscherova, K. Yeast Biosensors for Detection of Environmental Pollutants: Current State and Limitations. *Trends Biotechnology* (2016), 34 (5), 408–419.
- Palao, E., Slanina, T., Muchova, L., Solomek, T., Vitek, L., Klan, P. Transition-Metal-Free CO-Releasing BODIPY Derivatives Activatable by Visible to NIR Light as Promising Bioactive Molecules. *Journal of the American Chemical Society* (2016), 138 (1), 126–133.
- Bidmanova, S., Kotlanova, M., Rataj, T., Damborsky, J., Trtilek, M., Prokop, Z. Fluorescence-Based Biosensor for Monitoring of Environmental Pollutants: From Concept to Field Application. *Biosensors & Bioelectronics* (2016), 84, 97–105.

## Activities of the Stockholm Convention Regional Centre

The Stockholm Convention Regional Centre continues to provide support to other countries and regions, in particular in relation to monitoring, sampling and analyses of toxic chemicals in the environment. In doing so we support the implementation of the Global Implementation Plan of the Stockholm Convention. Our current activities comprise operation of the RECETOX's own monitoring program MONET. Check its new website at [www.monet.recetox.muni.cz](http://www.monet.recetox.muni.cz); it provides a good overview of the work undertaken in all 50 countries where we have worked since 2003. Moreover, we organized another RECETOX International Summer School (12th round) that took place from 13–17 June 2016 and hosted 30 participants who learned a lot about the indoor environment and current advances in research and potential needs for (regulatory) monitoring in the indoor environment the future. Finally, there is a quick summary of our ongoing capacity building support provided in countries in Asia and in Africa, in support to the UNEP/GEF projects as is further described below.

### Capacity Building Project in support to Global Monitoring Plan in Africa

The Stockholm Convention Regional Centre and Trace Analytical Laboratories of the RECETOX Centre, along with five other research institutions from Germany, the Netherlands, Spain, Sweden, and Uruguay, supported the United Nations Environment Programme (UNEP), UN Institute for Training and Research (UNITAR) and Environment Protection Agency in Ghana at a large international workshop held in Accra, Ghana 6–8 July 2016.

The meeting served both as a follow-up meeting of the project UNEP/GEF capacity building project implemented 2009–2012 in the region and the kick-off meeting for the new project gathering information on the occurrence of newly listed persistent organic pollutants (brominated and fluorinated compounds) to the Stockholm Convention on POPs, as well as some candidate POP substances to evaluate their medium and long term trends in the African environment. In addition, a targeted laboratory training to further strengthen capacities for POPs analyses in participating countries will take place. This training will be car-



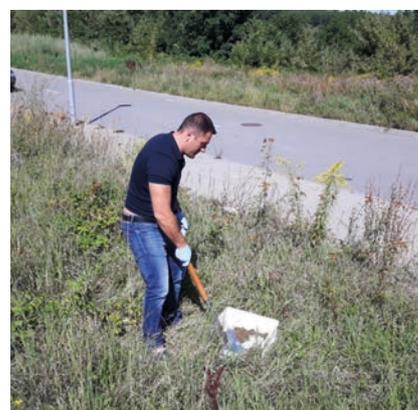
ried out by experts from the Netherlands, Sweden and the Czech Republic and we were happy to see that some African countries are gearing up to analyze brominated flame retardants themselves. Finally, the RECETOX centre (through its Stockholm Convention Regional Centre, SCRC) supplies sampling material (passive samplers and sorbents – PUF disks) for ambient air sampling for countries participating in the project in Africa, Asia and on Pacific Islands.

The meeting in Ghana was attended by more than 40 representatives of 15 African countries (DR Congo, Egypt, Ethiopia, Ghana, Kenya, Mali, Mauritius, Morocco, Nigeria, Senegal, Tanzania, Togo, Tunisia, Uganda and Zambia), who are involved in a new UNEP project financed by the Global Environmental Facility (GEF) entitled GMP2, Continuing Regional Support for the Global Monitoring Plan of Persistent Organic Pollutants (POPs) under the Stockholm Convention in the Africa Region. This project will collect data over two years on the POP levels in the air, water, breast milk and other environmental matrices in 2017 and 2018.



## Training for dioxin sampling in various matrices

The SCRC at RECETOX won the bidding for providing support services to UNIDO project “Implementation of BAT and BEP for the reduction of unintentional POP releases from open burning sources” in Armenia. For this project, we provided a three-day training to one expert from the Waste Research Centre, Yerevan, Armenia in our premises to collect samples of air, water/leachate, ashes and soil from both impacted and background sites in the vicinity of the Ararat waste dump site. The training organized at RECETOX on 29–31 August 2016 focused on sampling techniques, pre-treatment of the collected samples and their analytical processing to detect dioxin levels therein. The samples will be collected in 2016, prior to clean-up and intervention at the site (introduction of BAT procedure for the waste management) and will describe situation before the intervention. Another sampling campaign will take place at the end of the project to evaluate effectiveness of the new measures introduced at the Ararat dumpsite.



## New Cooperation with Slovenia



A bilateral workshop for the Stockholm Convention Regional Centre in the Czech Republic took place at the RECETOX premises in Brno in 17–18 August 2016. Colleagues from the Jozef Stefan Institute from Ljublanja, Slovenia visited RECETOX researchers in Jana Klánová’s team to establish closer cooperation in research and faster transfer of knowledge. While we are not starting from scratch – as we worked together in the EU FP7 project ARCRISK – now we are teamed again in H2020 project ICARUS and HBM4EU, and there is a need for mutual strengthening of capacities and use of both research infrastructures in the Czech Republic and Slovenia. We were happy to learn from Dr. Milena Horvat, director of Department of Environmental Sciences about her national and international projects including health studies and isotope imaging. We appreciated their long-term expertise in mercury and metals including their experience with human exposure surveys and projects.

We hope that our Slovenian colleagues Professors Milena Horvat, Radmila Milačič, Janez Ščančar, Ester Heath and Nives Ogrinc and researchers Janja Snoj Tratnik, Dr. Tina Kosjek, Sonja Lojen and David Kocman had a good time with us!

We hope that our Slovenian colleagues Professors Milena Horvat, Radmila Milačič, Janez Ščančar, Ester Heath and Nives Ogrinc and researchers Janja Snoj Tratnik, Dr. Tina Kosjek, Sonja Lojen and David Kocman had a good time with us!