For
a Healthy
Future

RECETOX NEWS

volume VI, issue 2/2018, summer 2018

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

In this issue

Calendar of Events

30 May – 1 June 2018 ROG meeting for 3rd stage in POPs monitoring, Brno, Czech Republic
3 – 9 June 2018 Mercury inventory in Turkey, Ankara
7 – 8 June 2018 Jean Monnet Summer School - FoodPro, NUFT, Kiev, Ukraine
11 – 13 June 2018 Midterm Workshop of the UN Environment/GEF Project on Strengthening regional support for POPs monitoring in GRULAC region Medelin, Columbia
18 – 22 June 2018 14th RECETOX Summer School, Health and smart cities, RECETOX, Brno
18 – 20 June 2018 Global Chemical Outlook consultations, Bonn, Germany
20 June 2018 SusChem Stakeholder Event 2018, Brusel, Belgium
24 - 28 June 2018 5th summer school on protein engineering, Brno
25 – 28 June 2018 6th meeting EmCon2018, Oslo, Norway
8 - 15 July 2018 Expert mission to select facilities able to perform PCB elimination, Ukraine
23 – 25 July 2018 Midterm Workshop of the UN Environment/GEF Project "Continuing Regional Support for the POPs Global Monitoring Plan under the Stockholm Convention (GMP2)" in the Africa Region, Lusaka, Zambia
8 – 11 August 2018 Midterm Workshop of the UN Environment/GEF Project "Continuing Regional Support for the POPs Global Monitoring Plan under the Stockholm Convention (GMP2)" in the Asia Region and Coordination Meeting on Follow-up Issues, Ulaanbaatar, Mongolia
26 – 30 August 2018 39th Dioxin 2018 conference, Krakow, Poland
11 September 2018 ERA Planet meeting, Geneva, Switzerland
12 – 14 September 2018 Workshop of Biophysical Chemists and Electrochemists) and XII. Summer School of Electrochemistry, Masaryk University, Bohunice University Campus, Brno, Czech Republic
14 September 2018 Open Day at Masaryk University for secondary school students, Brno
17 – 21 September 2018 Expert mission on mercury to Serbia, Belgrade, Serbia
17 – 21 September 2018 14th meeting of the POPRC, Rome, Italy
26 – 27 September 2018 Gaudeamus Fair (European Fair of university and tertiary education), Nitra, Slovakia
27 September 2018 2nd meeting of the HBM4EU Governing Board, Vienna, Austria
27 September 2018 High level panel at the Human Biomonitoring Conference, Vienna, Austria
5 October 2018 Science Night, Brno, Czech Republic
16 – 18 October 2018 CEE regional meeting in preparation to the COP2 of the Minamata Convention, Chisinau, Moldova
25 October 2018 26th meeting of the Council of the National Centre for Toxic Compounds, Prague, Czech Republic
25 October 2018 7th meeting of the National Panel for Human Biomonitoring (HBM4CZ), Prague
5 – 9 November 2018, Study visit from Kazakhstan - Sharing experience on Minamata Convention, Prague and Brno
15 – 16 November 2018 Annual Meeting of SCRC - BCRC directors, Geneva, Switzerland
19 – 23 November 2018 Minamata Convention on Mercury (COP2), Geneva, Switzerland

Editorial

Dear readers of our quarterly newsletter,

Here comes the summer issue packed with information on progress of our research - Horizon 2020 project ICARUS targeting and improving urban air quality, novel platform for biotechnology combining IT database search with microfluidic characterization to speed the whole process of identification of prospective enzymes, or findings of the study on remobilization of persistent organic pollutants in India with a global impact.

In addition, we are sharing with you an interview with Professor Miriam Diamond who spent two months at RECETOX and also outputs of the meeting of the Scientific and Advisory Board looking at progress of the TEAMING Phase 1 project.

Further, a long list of activities performed by the Stockholm Convention Regional Centre this summer is added as well as events in the pipeline that would keep us busy for months to come.

We wish you a pleasant reading and a smooth recovery from a very hot summer in Europe,

Katka Šebková
on behalf of all editors in this issue

ICARUS Project Halfway

The RECETOX has been quite successful in bidding for projects in the Horizon 2020 framework and currently there are eight projects implemented and more are coming.

This time, we look back at the progress achieved within the two years of implementation of the ICARUS (Integrated Climate forcing and Air pollution Reduction in Urban Systems, www.icarus2020.eu) project. Its goal is to assess the impact of policies on reducing greenhouse gas (GHG) emissions and improving air quality and to evaluate the future health and economic impacts of these policies in European cities. Therefore, the project targets nine European cities of variable size starting from relatively small ones (Basel, Brno, Ljubljana), through mid-size (Copenhagen, Stuttgart, Thessaloniki) to large cities (Athens, Milan and Madrid) included in the project through participating institutions.

What has ICARUS achieved in Brno so far?

The project established a close cooperation with Brno authorities, studied existing local legislation on (urban) air quality, protection and standards, prepared Brno emission inventory for 2015 and future outlooks, performed a field campaign studying urban air in 2017 and a personal exposure study is prepared for about a 100 Brno citizens in winter 2018 and a following summer. In addition, ICARUS has also supported this year`s international summer school at RECETOX by lecturers while it had its annual meeting in Brno, 18-19 June 2018.

Brno Emission inventory:

In cooperation with the Czech company Enviros and the University of Stuttgart, the RECETOX ICARUS team performed an major anthropogenic air pollutants and greenhouse gases emission inventory for Brno for 2015 on the basis of available data. 2015 was chosen as a project reference year, and expected inventories for 2020 and 2030 were also prepared. The 2015 results revealed that major contributions to the anthropogenic emissions in Brno stem from road transport and domestic heating for most pollutants considered. Important local sources, such as the incineration plant or the D1 highway could be identified in the emission map (see Figure 1).

Field air campaigns:

Field air campaigns occurred in six participating cities, including Brno, in winter and summer 2017. Air samples were taken from a city transport affected site (Kotlářská), an urban background site (Lány, close to the Bohunice Campus) as well as at a regional background site (Košetice Observatory, Vysočina). The outcomes revealed strong seasonal and spatial differences. The preliminary results comparing the study cities indicate

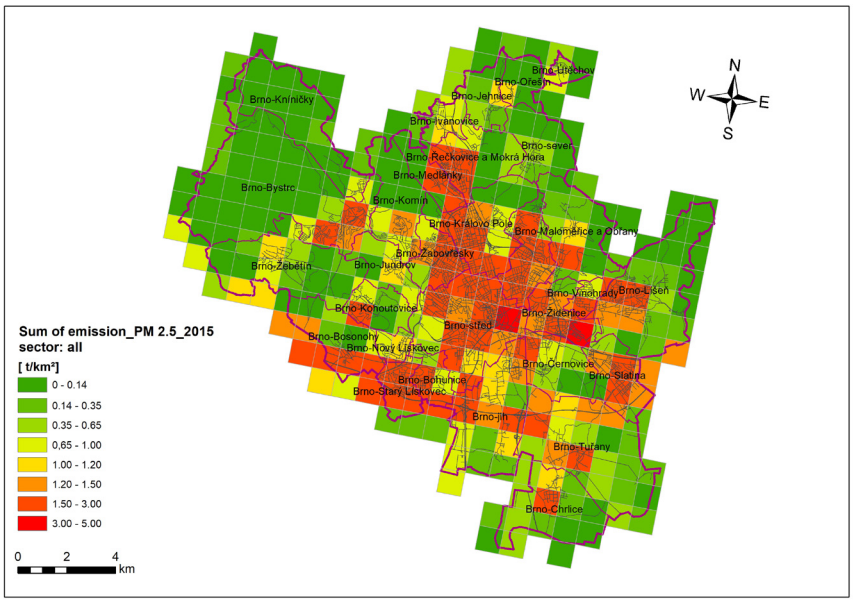

Figure 1 Spatial distribution of PM2.5 emissions in Brno, Czech Republic

that winter concentrations found in Brno were among the highest for many pollutants and GHGs.

Cooperation with the city and selecting key policies:

From the very beginning of the project, RECETOX have actively contacted many city stakeholders in order to obtain all the necessary data for emission assessment, and relevant future plans and visions. We have obtained a full set of Brno traffic intensity data (incl. cars, trains and aircrafts). Together with Enviros, we have also obtained and estimated the data for stationary sources within the city of Brno (from households, through waste incineration plants to crematorium). Finally, city of Brno and Statistical Office provided us with necessary geographical and socioeconomic data for different districts of Brno.

During these two years, we have also participated in the real-life city planning, and became a permanent scientific partner in the Vision2050 project. We were also participating in the most recent bicycle and traffic mapping and provided expertise in the preparation of the Action plan for improving air quality in Brno.

The RECETOX team evaluated different national and local plans and visions to improve urban air quality and to reduce greenhouse gas emissions developed by the city of Brno or the Ministry of Environment over the past years. The plans cover air quality improvements, city mobility and climate change adaptation measures. A total of 64 individual measures covering transport, land-use, industry, energy supply, cross-cutting as well as buildings and households were identified. Taking into account major sources of anthropogenic emissions in Brno 10 individual policies/measures were selected for further work as a follow-up to the evaluation of plans and measures, i.e. subsidies promoting a switch in combustion techniques for domestic heating, promotion of cycling and walking to the car use or a new policy related to residential parking.

Do you wish to know more about ICARUS at RECETOX? Please contact Ondřej Mikeš or Céline Degrendele (degrendele@recetox.muni.cz, mikes@recetox.muni.cz)

Visiting Professor from Canada

photo credits: University of Toronto

Professor **Miriam Diamond** from Toronto University arrived to RECETOX in mid April 2018 to spend two months of her sabbatical with us. She is a professor in the Department of Earth Sciences at the University of Toronto, Canada. She is cross-appointed to the Dept. of Chemical Engineering and Applied Chemistry, the Dalla Lana School of Public Health, School of the Environment, and the Physical and Environmental Sciences Program at Scarborough College. The goal of Prof. Diamond's multidisciplinary research program is to improve our understanding of chemical contaminants from emission, through to transport indoors and outdoors, and ultimately human and ecological exposure. This research has been published in over 100 articles and chapters in addition to receiving media attention.

During her stay, Miriam gave several lectures to our in-house staff and consulted with several of our teams. We asked her few questions:

Miriam, what did you work on while at RECETOX?

It was a great pleasure to visit RECETOX from mid-April until the end of the XIVth international summer school. I had the opportunity to work on many projects, including some at RECETOX, a joint project between my group and RECETOX, and continuing work from my lab. The common theme of the work was improving our understanding of the sources, environmental fate of, and exposure to hazardous chemical compounds. Here are a few examples of specific projects I worked on. With Dr. Lisa Melymuk and Dr. Lola Bedard from RECETOX, Dr. Marta Venier from Indiana University, and my group plus Dr. Victoria Arrandale from University of Toronto, we investigated the flame retardant chemicals in an e-waste facility in Canada and the exposure of e-waste workers to these flame retardants. Also with Dr. Lisa Melymuk, we completed a study on legacy POPs in the Czech Republic, Canada and US, an interlaboratory calibration study, a study on factors affecting POPs in homes (with Dr. Hale Dempirtepe), and a non-target analysis of chemicals found in dust sampled in the Czech Republic, Canada and US. In total, I worked on over 12 papers.

Could you comment on expertise available at RECETOX and its approach to research?

RECETOX is unusual in having excellent expertise in all areas related to improving our understanding of hazardous chemicals. Working at RECETOX was for me, the equivalent of being in a candy shop - so much variety, so much interest, so much enthusiasm and satisfaction. I appreciate that RECETOX is moving with the forefront of research, into understanding factors related to human health, through involvement in the Europe-wide biomonitoring program, numerous multi-institutional studies (for example ICARUS), all the way to Brno-specific studies. Each studies marshals state-of-the-art science and analytical expertise available at RECETOX. Prof. Jana Klanova has and continues to promote a vision for RECETOX as an international leader in environmental and human health. With indefatiguable energy, she is able to bring these visions to fruition.

What surprised you/pleased you the most while being at RECETOX?

What surprised me the most was the breadth of expertise including expertise in the most up-to-date methods in environmental chemistry, exposure science and epidemiology. I was so pleased to be warmly welcomed by all. I enjoyed learning from younger colleagues and in turn, being able to provide mentorship. The atmosphere was supportive and enriching. I was provided with so many opportunities to learn and to contribute.

If someone else wants to go to Brno/Czech Republic, what would you say?

Pack your bags! You will have a wonderful visit! Be prepared to build new collaborations and friendships!

Monsoon remobilizes phased-out chemicals stored in South Asian soils

An international team, led by scientists from the Max Planck Institute for Chemistry, has now found out that persistent organic pollutants, stored for decades in South Asian soils, can be re-mobilized by the monsoon and volatilize into the air. The research, published recently in the Journal of Atmospheric Chemistry and Physics, contributes to the understanding of the large scale distribution and fate of chemical pollution. Several of our colleagues contributed to the work detailed below.

In order to understand the interaction between the monsoon air masses moving from the Indian Ocean to the Asian continent and the POPs concentrations in continental background soils, the scientists performed measurements in the Western Ghats mountains. The analyses of soil and air suggest that the arrival of the summer monsoon triggers net volatilization or enhances the on-going re-volatilization of the now banned chemicals HCH and PCBs from soils in southern India. The study results showed that the re-volatilization from soils pollutes the air progressively more as the monsoon propagates northward and eastward across the subcontinent during June and July.

"Both the field measurements and modeling results of this study indicate a mechanism of pollutant cycling over the Indian subcontinent that has thus far been overlooked," says **Gerhard Lammel**, Research Group Leader at the Max Planck Institute for Chemistry, professor at RECETOX, and principal investigator of the study. "A part of the pollutant burden in Indian soils is pulled out by the monsoon once per year and undergoes large-scale re-distribution."

Getting to the bottom of the dynamics of soil contamination and exchange with the overlying air is crucial for assessing the spatio-temporal scales of the distribution and fate of chemical pollution in the region and globally. The investigation of the potential of organic chemicals to re-volatilize from land and sea surfaces is key for understanding the exposure of the environment and of humans, and hence the risk assessment of man-made chemicals in general.

Dr. Céline Degrendele from RECETOX also contributed to the study by multimedia modelling to simulate 50 years of air-soil exchange of various POPs in India.

Read the article here: https://doi.org/10.5194/acp-18-11031-2018

New Study Programs - continued

The last newsletter issue informed about new RECETOX curricula for both bachelor and master degrees starting in 2019. We have now successfully completed accreditation for PhD studies in both programs - the Environment and Health, and Computational Biology and Biomedicine in the Czech language. We are currently working on accreditation of studies in English that should be finalized and endorsed in the autumn.

Success in H2020 call HEALTH

Early August 2018 brought us a happy news on the results of the proposed projects in the H2020 call HEALTH for 2020-2023. We are taking part in four out of five projects that were successfully evaluated. Therefore, soon we will start implementing projects OBERON (principal investigators at RECETOX: Jana Klánová, Julie Bienertová, Pavel Babica), ERGO (Klára Hilscherová), HERA (Jana Klánová, Kateřina Šebková) and ONCOBIOME (Eva Budinská).

RECETOX Publications

In 2018, RECETOX completed and published 119 articles in the peer reviewed literature so far. A selection of six articles covering the breadth of our research until in end of August 2018 is shown below and two of the articles in bold do have a more detailed text in the newsletter:

Lammel, G.; Degrendele, C.; Gunthe, S. S.; Mu, Q.; Muthalagu, A.; Audy, O.; Biju, C. V.; Kukucka, P.; Mulder, M. D.; Octaviani, M.; Pribylova, P.; Shahpoury, P.; Stemmler, I.; Valsan, A. E. Revolatilisation of soil-accumulated pollutants triggered by the summer monsoon in India. Atmospheric Chemistry and Physics (2018), 18 (15), 11031-11040.

Skala, J.; Vacha, R.; Cupr, P. Which Compounds Contribute Most to Elevated Soil Pollution and the Corresponding Health Risks in Floodplains in the Headwater Areas of the Central European Watershed? International Journal of Environmental Research and Public Health (2018), 15 (6), article number: 1146.

Vohradska, N.; Sanchez-Carnerero, E. M.; Pastierik, T.; Mazal, C.; Klan, P. Controlled photorelease of alkynoic acids and their decarboxylative deprotection for copper-catalyzed azide/alkyne cycloaddition. Chemical Communications (2018), 54(44), 5558-5561.

Kalina, J.; Scheringer, M.; Boruvkova, J.; Kukucka, P.; Pribylova, P.; Sanka, O.; Melymuk, L.; Vana, M.; Klanova, J. Characterizing spatial diversity of passive sampling sites for measuring levels and trends of semivolatile organic chemicals. Environmental Science & Technology (2018), accepted. DOI: 10.1021/acs.est.8b03414.

Tousova, Z.; Froment, J.; Oswald, P.; Slobodnik, J.; Hilscherova, K.; Thomas, K.; Tollefsen, K. E.; Reid, M.; Langford, K.; Blaha, L. Identification of algal growth inhibitors in treated waste water using effect-directed analysis based on non-target screening techniques. Journal of Hazardous Materials (2018), online. DOI: 10.1016/j.jhazmat.2018.05.031.

Vanacek, P.; Sebestova, E.; Babkova, P.; Bidmanova, S.; Daniel, L.; Dvorak, P.; Stepankova, V.; Chaloupkova, R.; Brezovsky, J.; Prokop, Z.; Damborsky, J. Exploration of Enzyme Diversity by Integrating Bioinformatics with Expression Analysis and Biochemical Characterization. ACS Catalysis (2018), 8 (3), 2402-2412.

Awards

We would like to acknowledge Martin Toul, our graduate in the Protein Engineering programme. Apart from successfully completing his Master degree with excellent results before the summer in June, he received the Masaryk University Rector Award 2018 for outstanding achievements in studies and research in early May 2018 and further, he also won a in Biochemistry and Molecular Biology category at the XVIIth Interdisciplinary Meeting of Young Researchers and Students in the field of chemistry, biochemistry, molecular biology, and biomaterials held in Milovy, Czech Republic 14 – 17 May 2018. This international symposium is organized annually by Sigma-Aldrich in cooperation with Slovak Chemical Society, Czech Chemical Society and Czech Society for Biochemistry and Molecular Biology for young researchers. It is the most prestigious students' competition in the Czech Republic in life sciences and it awards three grants to the best works presented. Martin received the highest number of votes from the committee as well as from the audience for his work "Towards Understanding Evolution: A Novel Function by a Single-Point Mutation". Congratulations on all these grand achievements!

EnzymeMiner - a new tool applying bioinformatics and lab-robotics

A novel user friendly tool to work with millions of available genome sequences in identification of those potentially useful for biotechnologies has been developed by bioinformatics and experimental biology team in Loschmidt Laboratories at RECETOX in cooperation with the Institute of Experimental Biology, Masaryk University, and ICRC-FNUSA. The team have designed a tiered computational-experimental platform for the automatic identification of interesting sequences in genomic databases followed by robot operated laboratory characterization.

The newly developed platform has been piloted to characterize more than five thousand target sequences from a database containing hundreds of millions of different sequences. Sequences were computerized and 20 candidates were selected for a subsequent biochemical characterization that yielded enzymes suitable for the synthesis of pharmaceutically interesting molecules and for preparation of biosensors. The work was published in a prestigious scientific journal of the American Chemical Society ACS Catalysis.

Pavel Vaňáček, team leader, told us: "The computational part is currently coded into an electronic tool EnzymeMiner in cooperation with the Faculty of Information Technology, Institute of Technology Brno, Czech Republic and experimental part of the platform is enlarged by "laboratories-on-a chip", miniature microfluidic systems allowing to perform thousands experiments an hour while consuming only a miniature part of the sample in comparison to conventional laboratory experiments."

See more:
https://loschmidt.chemi.muni.cz/enzymeminer/
https://pubs.acs.org/doi/abs/10.1021/acscatal.7b03523

Evaluation of RECETOX's Scientific vision within TEAMING

In May 2018, the external Scientific Advisory Board (SAB), consisting of four international experts, including Prof. John P. Giesy (Chair) of the University of Saskatchewan, Canada, Prof. Bryan Brooks of Baylor University, USA, Prof. Leslie S. Park and Mark Cullen (remotely) of Stanford University, USA met at RECETOX to review ongoing progress and plans of research and teaching activities at RECETOX`s TEAMING project. The main aim of the TEAMING project is the institutional and infrastructural upgrade of the existing RECETOX Centre and the improvement of the international competitiveness and research excellence of the Centre through the strategic partnership with the leading European institutions (University College London, ETH Zurich, BBMRI-ERIC, and ICRC at FNUSA).

The SAB meeting evaluated the RECETOX Scientific vision and Development strategy to better assess the strengths and weaknesses, planned research directions and goals, and identification of new opportunities and strategic partnerships. After two days full of presentations and meetings with the research group leaders, research infrastructure coordinators, post docs and doctoral students, the SAB members developed a written evaluation report, which includes a critical assessment of presented information, and recommendations for future development of the Centre. This independent evaluation exercise, which is the common practice at many research institutions abroad, but rare in the Czech Republic, will be repeated no later than in 2021.

The main findings of the evaluations are that (i) the program outlined in the TEAMING proposal is the right way to leverage previous investments to build the regional capacity in the Environment and Health area and answer current societal needs, (ii) securing the Phase 2 of the TEAMING project would represent a transformational opportunity for the RECETOX Centre, and (iii) the project can have a real impact on the health of people in the region.

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 biota by providing capacity building projects and trainings. In addition, it supports development of the legal and institutional frameworks as well as generates data in monitoring program MONET and operates the global POPs data visualization portal www.pops-gmp.org.

Continued cooperation with Armenia

The training "Sharing Experience of the Czech Republic in Risk Assessment with Environmental and Information Center expert from Armenia" took place at RECETOX, Masaryk University in Brno, Czech Republic 4-8 June 2018. This activity is based on a contract between the UNIDO and the RECETOX supporting the implementation of the GEF project "Implementation of BAT and BEP for the reduction of UP-POPs releases from open burning sources".

Trainee, Mr. Artak Khachatryan returned to RECETOX to strengthen his skills in data interpretation (on the basis of GC/MS and GC/ECD laboratory data available from the Ararat site), their comparability and data visualization including work with specialized software and models to estimate distribution of the pollution in different environmental media. He presented a situation report on the rehabilitation of the Ararat dumpsite after the BAT/BEP intervention during 2017 and plans for 2018. There were six RECETOX experts involved in the training and Artak thus spent a full week in discussions and hands-on with our experts: professor Ivan Holoubek shared his experience in dealing with contaminated sites to identify pollution in different environmental media and data interpretation, professor Martin Scheringer explained a small regional model to be able to compare model with unintentional POPs data collected in the first monitoring campaign in 2016 and held a hands on, and Associate Professor Pavel Čupr lectured on GIS modelling and introduced risk analysis approaches and available tools.

In addition, Jiří Kalina introduced Artak to the tools and visuals in GENASIS information database and carried a hands on with recalculation equations, Roman Prokeš refreshed Artak`s skills in sampling of air and soil and need for provision of information in the sampling records together with the samples, and Petra Přibylová discussed peculiarities of the chemicals analyses of contaminated samples.

Outcome of the training is a design of new monitoring round at the Ararat waste dumpsite to take place in 2018 taking into account site`s status quo after the BAT/BEP establishment at the site and needs for information to provide input into risk analysis assessment to be carried out after the data from collected samples in 2018.

Director of the SCRC Czech Republic, Kateřina Šebková, stated that RECETOX are very pleased to see the project successfully continuing and are looking forward to cooperate with Armenian colleagues in this follow-up to the first sampling campaign from 2016, build Armenian capacities in risk analysis and support them in generation of information necessary for enhanced use of available data. the disease.

RECETOX
International Summer School 2018

14th session of the five days International Summer School on Toxic Substances in the Environment at RECETOX was held in our premises from 18 to 22 June 2018. This year 39 participants looked into toxic compounds in the environment with a special emphasis on Smart Cities and Health. There were 17 invited specialists including 15 ICARUS project experts and 20 RECETOX staff who provided the latest findings in research, and shared their experience and case studies for applying the knowledge in practice.

This year, the most recent research advances on air sampling, the determination of toxic substances present in the air, climate change adaptations and pollution reduction in urban systems, monitoring networks, emission modeling and substance fate in relation to the impact assessment for urban emission reduction scenarios and monitoring of population exposure and health impact assessments and to strengthen the knowledge and skills of good laboratory practice.

Highlights of the summer school were a study trip to the Košetice Observatory, a monitoring site serving as a regional background site for the Central and Eastern Europe for both the Stockholm Convention on Persistent Organic Pollutants, and EMEP - a European Monitoring and Evaluation Programme. Finally, a laboratory practice took place on the last day on six stations.

We would like to acknowledge support received from the Czech Ministry of Environment that allowed for enrollment of four delegates, from Armenia, Bosnia and Herzegovina, Ukraine and Malaysia to benefit from the summer school at RECETOX and share with you their experience:

"The laboratory visits were valuable, in particular the practical demonstration on the sampling techniques and demonstration of dust sampling." said Thahirah Kamarulzaman, Malaysia

„First of all I would like to express my gratitude to RECETOX and Czech Ministry of Environment for hospitality and sponsorship and to you and your colleagues for wonderful organization of Summer school. I enjoyed being in Brno, an amazing city, at Masaryk University – which is wonderfull and with some amazing people working in RECETOX. You and your team have warm regards from Sarajevo. Hope we can work on some projects together – that would be interesting..." told us Admir Aladzuz, Bosnia and Herzegovina

Use the RECETOX research infrastructure capacity!

RECETOX research infrastructure 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.

Please note the following deadlines for submitting application forms or project proposals in 2018: **31 March, 30 June, 30 September, and 31 December.**

Visit www.recetox.muni.cz/RI for the application procedure and further relevant details.

Should you have additional questions, please contact Petra Růžičková, coordinator of the RECETOX research infrastructure (ruzickova@recetox.muni.cz

RECETOX News

We are happily announcing that several of our staff recently extended their families this year. Congratulations to professor Zbyněk Prokop on his daughter Verunka and Vojtěch Přibyla who welcome a daughter Claudia into their family.

Prague Science Fair in June 2018

The Prague PVA Arena hosted the largest public science event in the Czech Republic - a fourth Science Fair organized by the Academy of Sciences of the Czech Republic - from 7 to 9 June 2018. The fair with 90 exhibitors was attended by almost 25,000 visitors, who also had the opportunity to get introduction to research activities and the study curriculum at RECETOX.

Our stand was divided into four sections. The first one provided information on the content and potential risks of payment receipts, impregnation of outdoor clothing and footwear, plastic packaging, and contents of a carpet or household dust.

The second part represented RECETOX's ecotoxicological research and depicted water and agricultural lands contamination by chemicals, and effects of cyanobacterial activity on the hormonal balance in fish and amphibians. Thirdly, visitors were acquainted with effects of nutrition and physical exercise on human health as well as with selected outcomes of the ELSPAC longitudinal study, regarding the evolution of eating habits of the Brno population over the course of 15 years. Fourth site targeted the youngest visitors who could try to work with a pipette and learned how to detect dangerous cyanobacteria from harmless algae in water.

We would like to acknowledge Petra Fišerová, Lucie Grohmanová, Markéta Grulichová, Simona Jílková, Kristýna Kroupová, Barbora Nežiková, Zuzana Nováková and Eliška Sychrová for being our science ambassadors at the RECETOX stand.

Events in the Pipeline

RECETOX is supporting UNEP Chemicals and Health Branch in organizing the **First Global Assessment of Laboratories Analyzing Mercury 2018**. Participation in the assessment is by invitation from UNEP only and it is based on information provided by laboratories to the UN Environment Mercury Laboratory Databank in late 2016. The RECETOX is providing technical coordination of the assessment and the preliminary results should be available at the COP 2 of Minamata Convention held in Geneva 18-23 November 2018.

SCRC Czech Republic will be supporting organization of the **Central and Eastern European regional meeting prior COP2 held in Chisinau, Moldova** in mid October 2018.

A study tour will be organized for 10 experts from Kazakhstan on matters related to the implementation of the Minamata Convention on Mercury in early November 2018. The tour will take place in Prague and Brno and share Czech experience in the ground at both regulatory and research levels. In addition, it also aims to build laboratory capacities in mercury analyses and the training will be held at RECETOX premises.

Last but not least, a **new construction** will start - **biobanking facility** will be built next to our current building, the construction works should kick-off in late autumn and **RECETOX will be celebrating 35th anniversary** in November 2018.

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