

# 第 23 回 環境化学討論会

## 要旨集 CD

### 23<sup>rd</sup> Symposium on Environmental Chemistry

#### Abstracts CD

開催日時：2014 年 5 月 14 日～16 日

Dates: 14<sup>th</sup> — 16<sup>th</sup> May 2014

開催場所：京都大学百周年時計台記念館・芝蘭会館

Venue: Kyoto University, Kyoto, Japan



主催 日本環境化学会

Organised by Japan Society for Environmental Chemistry

May 14 (Wed.) Shiran-kaikan C (Yamauchi hall) 芝蘭会館 C 会場

International Session 1 生体影響 農薬・炭化水素・PPCPs

|       |       |   |   |
|-------|-------|---|---|
| 13:00 | 1C-01 | Quantification of Neonicotinoids in Human Urine using Liquid Chromatography/ Tandem Mass Spectrometry                               | ○Jemima Tiwaa Marfo 1, Yoshinori Ikenaka 1, Shouta Nakayama 1, Hazuki Mizukawa 1, Kumiko Taira 2, Kazutoshi Fujioka 3, Yoshiko Aoyama 4, Osei Akoto 5, Mayumi Ishizuka 1 (1; Hokkaido Univ., 2; Tokyo Women's Medical Univ., 3; Hawaii Institute of Molecular Education, 4; Aoyama Allergy Clinic, 5; Kwame Nkrumah Univ. of Sci. & Technol.) |
| 13:20 | 1C-02 | Methylated Polycyclic Aromatic Hydrocarbons and Their Contribution to AhR-mediated Activities in Street Dust from Vietnam and India | ○Le Huu Tuyen 1,2, Nguyen Minh Tue 1,2, Shin Takahashi 4, Go Suzuki 3, Pham Hung Viet 2, Annamalai Subramanian 5, Kesav A.Bulbule 5, Shinsuke Tanabe 1 (1; CMES, Ehime Univ., 2; CETASD, Hanoi Univ. of Sci., 3; NIES, Japan, 4; Faculty of Agricultural Faculty, Ehime University, 5; KLE's Nijalingappa College, Bangalore, India)          |
| 13:40 | 1C-03 | Occurrence of Micro-pollutants in Wastewater Effluents from Biogas Digester - Health Risk Assessment                                | ○Le Thi Phuong Hong 1, Duong Thi Hanh 1, Chau Thi Cam Hong 2, Pham Duc Phuc 1, Nguyen Viet Hung 3, Kiwao Kadokami 2, Yoshiharu Shirane 4 (1; Hanoi School of Public Health, Vietnam, 2; University of Kitakyushu, Japan, 3; Swiss Tropical and Public Health Institute, Switzerland, 4; ShiranACE Ltd, Japan)                                 |
| 14:00 | 1C-04 | Cancelled   |   |
| 14:20 | 1C-05 | Removal and Occurrence of Pharmaceuticals in Sludge and Wastewater from a Wastewater Treatment Plant in Korea                       | ○Il-hoe Kim 1, Sang-jung Lee 2, Norihide Nakada 2, Hiroaki Tanaka 2, Ihn-sup Han 1 (1; Univ. of Seoul, 2; RCEQM, Kyoto Univ.)   |

International Session 2 生態系・環境レベル

|       |       |   |   |
|-------|-------|---|---|
| 15:00 | 1C-06 | Residue Levels and Health Risk Assessment of Organochlorine Pesticides (OCPs) in Domesticated Animals from Egypt  | ○Abdallah Fikry A. Mahmoud 1,2, Elsaid A. Eldaly 2, Alaa Eldin M.A. Morshdy 2, Yoshinori Ikenaka 1, Shouta Nakayama 1, Hazuki Mizukawa 1, Yared B. Yohannes 1, Waleed R. El-Ghareeb 2, Mohamed Tharwat El-Abbasy 2, Mayumi Ishizuka 1 (1; Hokkaido Univ., 2; Zagazig Univ.)   |
| 15:20 | 1C-07 | Polybrominated Diphenyl Ethers (PBDEs): Occurrence and Debromination in Tropical Asian Countries  | ○Charita S. Kwan 1, Hideshige Takada 2, Kaoruko Mizukawa 2, Mahua Saha 2, Rinawati 3, Rei Yamashita 2, Ruchaya Boonyatumanond 4, Evangeline C. Santiago 1 (1; Natural Sci. Research Institute, Univ. of the Philippines, 2; Laboratory of Organic Geochemistry, Tokyo Univ. of Agri. & Technol., 3; Faculty of Math. & Natural Sci., Univ. of Lampung, Indonesia, 4; Env. Research and Training Center, Thailand) |
| 15:40 | 1C-08 | Australasia Pellet Watch: POPs Monitoring in Australia and New Zealand Using Plastic Resin Pellets with International Pellet Watch as a Tool for Effective Risk Communication | ○Bee Geok Yeo 1, Hideshige Takada 1, Heidi Taylor 2, Maki Ito 1, Junki Hosoda 1, Wally Smith 2, Mayumi Allinson 3, Sharnie Connell 3, Laura Greaves, Mark Browne, Taj Powell, John McGrath 4 (1; Tokyo Univ. of Agri. & Technol., 2; Tangaroa Blue Foundation, 3; CAPIM, Univ. of Melbourne, 4; Surfriider Foundation Australia)  |
| 16:00 | 1C-09 | The Ccapacity Building for Analysis and Reduction Measures of Persistent Organic Pollutants in Serbia   | ○Takeshi Nakano 1, Vladimir Beškoski 2 (1; Osaka Univ., 2; Belgrade Univ.)  |
| 16:20 | 1C-10 | Potential Environmental Application of Microbial Polysaccharides  | ○Marijana Marković 1, Branka Kekez 2, Dragica Jakovljević 1, Gordana Gojgić-Cvijović 1, Dragan Manojlović 2, Vladimir Beškoski 2, Miroslav Vrvčić 2 (1; Institute of Chemistry, Technol. & Metallurgy, Univ. of Belgrade, Serbia, 2; Faculty of Chemistry, Univ. of Belgrade, Serbia)   |

International Session 3 重金属汚染・PAH・ダイオキシン・環境レベル

|       |       |  |   |
|-------|-------|--|---|
| 10:15 | 3C-01 | Present Status of Trace Elements Contamination in River and Marine Sediments and Fish from Jakarta Bay, Indonesia              | ○Adi Slamet Riyadi 1,2, Takaaki Itai 1, Tomohiko Isobe 1, Agus Sudaryanto 2, Muhammad Ilyas 2, Iwan Eka Setiawan 2, Shinsuke Tanabe 1 (1: CMES, Ehime Univ., 2: BPPT, Indonesia)  |
| 10:35 | 3C-02 | A First Order Estimate of Total Metal(loid)s in Soil of e-Waste Recycling Site in Accral, Ghana                                | ○Takaaki Itai 1, Asante Ansong Kwadwo 2, Akitoshi Goto 1, Samuel Obiri 2, Shin Takahashi 1,3, Shinsuke Tanabe 1 (1: CMES, Ehime Univ., 2: CSIR Water Research Institute, Ghana, 3: Dept. Agri., Ehime Univ.)  |
| 10:55 | 3C-03 | Lead Pollution in the Children in Kabwe Mining Area, Republic of Zambia  | ○Shouta Nakayama 1, John Yabe 2, Yoshinori Ikenaka 1, Yared Beyene Yohannes 1, Balazs Oroszlany 1, Nesta Bortey-Sam 1, Kaampwe Muzandu 2, Kennedy Choongo 2, Abel Kabalo 3, John Ntapisha 3, Aaron Mweene 2, Takashi Umemura 1, Mayumi Ishizuka 1 (1: Hokkaido Univ., 2: Univ. of Zambia, 3: Kabwe District Health Office)                      |
| 11:15 | 3C-04 | Leaching of Arsenic from Tailings by Microbially Produced Rhamnolipids   | ○Vladimir P. Beškoski 1,2, Ivana Perić 2, Gordana Gojđić-Cvijović 2, Latinka Slavković Beškoski 3, Biljana Dojčinović 2, Miroslav M. Vrvic 1,2 (1: Faculty of Chemistry, Univ. of Belgrade, Serbia, 2: Institute of Chemistry, Technol. & Metallurgy, Univ. of Belgrade, Serbia, 3: Institute of Nuclear Sci. Vinca, Univ. of Belgrade, Serbia) |
| 11:35 | 3C-05 | Health Risk Assessment of Atmospheric Polycyclic Aromatic Hydrocarbons in Kumasi-Ghana   | ○Nesta Bortey-Sam 1, Yoshinori Ikenaka 1, Shouta Nakayama 1, Osei Akoto 2, Yared Beyene Yohannes 1, Hazuki Mizukawa 1, Mayumi Ishizuka 1 (1: Hokkaido Univ., 2: Kwame Nkrumah Univ. of Sci. & Technol., Ghana)  |
| 11:55 | 3C-06 | Effect of Flocculating Agent on the Formation of Polychlorinated Dibenzodioxin and Dibenzofurans in Sewage Sludge Incineration | ○Xiaoqing Lin, Xiaodong Li, Shengyong Lu, Fei Wang, Tong Chen, Jianhua Yan (Zhejiang Univ., China)  |

International Session 4 ダイオキシン・POPs・リン系塩素系難燃剤

|       |       |   |  |
|-------|-------|---|--|
| 13:45 | 3C-07 | Dioxin in Vietnam   | ○Le Thi Hai Le, Nguyen Xuan Net, Le Ke Son (Office of National Steering Committee 33, MONRE, Vietnam)  |
| 14:05 | 3C-08 | Concentrations of Phosphorous Flame Retardants (PFRs) in Atmosphere, Bulk Deposition, and Soil in Kyoto, Japan                | ○Nguyen Thanh Dien 1, Yasuhiro Hirai 1, Toru Miyazaki 2, Shin-ichi Sakai 1 (1: Kyoto Univ., 2: Nippon Steel & Sumikin Technology)  |
| 14:25 | 3C-09 | Evaluation of New & Legacy POPs Monitoring Techniques in Ambient Air and Results from Frequent Monitoring at Supersite, Japan | ○Takumi Takasuga 1, Takeshi Nakano 2, Yasuyuki Shibata 3 (1: Shimadzu Techno-Research Inc., 2: Osaka Univ., 3: NIES)   |
| 14:45 | 3C-10 | Determination of Atmospheric Dechlorane Plus in North-East Asia and Dietary Exposure Level in Japan                           | ○Kensaku Kakimoto 1,3, Kazuhiko Akutsu 1, Toshiki Tojo 2, Takanori Sakiyama 2, Yoshimasa Konishi 1, Keiji Kajimura 1, Kazuichi Hayakawa 3, Akira Toriba 3 (1: Osaka Prefectural Institute of Public Health, 2: Osaka City Institute of Public Health and Env. Sci., 3: Kanazawa Univ.) |
| 15:05 | 3C-11 | Oil Pollution Analysis Using Comprehensive GC-MS (GCxGC-MS)   | ○Haruhiko Miyagawa 1, Riki Kitano 1, Katsuhiko Nakagawa 1, Megumi Hirooka 1, Shunji Hashimoto 2, Vladimir P. Beškoski 3, Narayanan Kannan 4, Takeshi Nakano 5 (1: Shimadzu corporation, 2: NIES, 3: Faculty of Chemistry, Univ. of Belgrade, 4: Univ. Putra Malaysia, 5: Osaka Univ.)  |

本誌に掲載された著作物を複写される方へ：

著作権者から複写権の委託を受けている次の団体から許諾を受けてください。

日本環境化学会事務局

〒305-0074 茨城県つくば市高野台 3-18-3 小川ビル 3F

TEL : 029-886-3185 FAX : 029-886-3186

## 日本環境化学会

### 第 23 回環境化学討論会要旨集 CD

平成 26 年 5 月 10 日 印刷

平成 26 年 5 月 14 日 発行

発行所 第 23 回環境化学討論会実行委員会

〒606-8501 京都府京都市左京区吉田本町

京都大学 環境科学センター 酒井研究室内

e-mail : [touron23@eprc.kyoto-u.ac.jp](mailto:touron23@eprc.kyoto-u.ac.jp)

印刷所 中西印刷株式会社

〒602-8048

京都府京都市上京区下立売小川東入ル

1C-09

### **The Capacity Building for Analysis and Reduction Measures of Persistent Organic Pollutants in Serbia**

○Takeshi Nakano<sup>1</sup>, Vladimir P. Beškoski<sup>2</sup> (<sup>1</sup>*Research Center for Environmental Preservation, Osaka University*; <sup>2</sup>*Faculty of Chemistry, University of Belgrade*)

Serbia is a south east European country where most important environmental risk factors today are inadequate management of waste, lack of database and systematic monitoring of chemicals lifecycle and accidents [1]. Because of use of obsolete technologies, long term usage of pesticides, but also NATO (North Atlantic Treaty Organization) bombardment in 1999 there are several places in Serbia that are considered to be polluted with different Persistent Organic Pollutants (POPs). According to existing data from Serbian Environmental Protection Agency [1], localized soil pollution is present in areas of intensive industrial activity, inadequate waste disposal sites, mines and sites where different accidents have occurred. Some 332 potentially contaminated sites are identified where long-term environmental pollution has been confirmed. The largest share of pollution is from public municipal landfills with 39%, followed by mining and oil refining at 28%. Within the industry, oil industry contributes with 51%, followed by the chemical industry with 15% and metal industry with 7%.

As a result of bombing in 1999, Polychlorinated biphenyls (PCBs) leaked from damaged transformers and capacitors to the environment. Although the measures for soil decontamination were conducted after the bombing, the influence may have been remained. In addition, waste waters from industrial zones may have caused POPs pollution of water and sediment of Danube River, second largest European river. Estimates of the relevant international organizations [2] have indicated the presence of high levels of soil pollution, primarily by hydrocarbons, PCB, heavy metals and other dangerous substances, near cities Pančevo, Kragujevac, Bor, Novi Sad, Barič, Kraljevo, Niš, Belgrade-new town, Obrenovac, Prahovo and Priština, stressing out a necessity for soil remediation activities to be carried out. However, continued monitoring of all POPs in the environment and reduction measures have not been conducted. Therefore, capacity building for POPs analysis and measures has been required in Serbia.

The JICA grassroots technical cooperation Project titled **“The Capacity Building for Analysis and Reduction Measures of Persistent Organic Pollutants in Serbia”** aims to investigate current status of environmental pollution including contaminants emissions while conducting trainings for researchers and government officials from Serbia. Administrative environmental pollution measures will be strengthened, and education to local residents will be conducted.

Target groups will be environmental researchers from University of Belgrade, environmental administrative officers from Pančevo and residents of Pančevo city, Serbia. The focus of the Project will be on Pančevo city which is especially known for its industrial complex that consists of a chemical fertilizers factory (HIP Azotara), petrochemical factory (HIP Petrohemija) and oil refinery (NIS Rafinerija Nafta, Pančevo) and covers about 290 hectares. Implementing organization will be Hyogo environmental advancement association (HEAA), Faculty of Chemistry, University of Belgrade and Pančevo city (Fig. 1). Until now, more than 20 experts from Japan, and more than 30 researchers and governmental officials from Serbia representing more than 20 different institutions from both countries are involved.





Fig. 1. Project outline and expected outcomes

The Internet address of the Project is [www.globalgreengroup.org](http://www.globalgreengroup.org) where all information will be published and available (Fig. 2). During the Project (March 2014-2017), trainings will be organized annually in Japan for researchers and for administrative officers from Serbia and experts will be dispatched from Japan to hold lectures in Serbia, to instruct monitoring of environmental contaminants around the Pančevo industrial zone area, and investigate hot-spots and contaminants in wastewater. Holding of webinars and seminars regarding environmental education to plant managers and local residents will be enabled (Fig. 3). Furthermore, environmental education/enlightenment of high-school students of Serbia will be supported.



Fig. 2. [www.globalgreengroup.org](http://www.globalgreengroup.org)



Fig. 3. Call for web seminars

Our Project will contribute and facilitate implementation of the Stockholm convention in Serbia [3]. We call all colleagues to join us in this Project and to help us build a better and less polluted world.

1. Report on the current state of the environment in the Republic of Serbia in 2011, Ministry of Energy, Development and Environmental Protection and Environmental Protection Agency of Serbia, 2012 (<http://www.sepa.sr.gov.rs>).
2. The Kosovo Conflict, Consequences for the Environment & Human Settlements, UNEP, UNCHS, 1999
3. <http://chm.pops.int/Implementation/NIPs/NIPSubmissions/tabid/253/Default.aspx>