

REPORT

**“AIR PROTECTION 2017”
10th CROATIAN SCIENTIFIC AND PROFESSIONAL
CONFERENCE with international participation
3-7 October 2017, Primošten, Croatia**

From 3 to 7 October 2017, the Croatian Air Pollution Prevention Association (CAPP) organized the 10th Croatian scientific and professional conference with international participation “Air Protection 2017”, in cooperation with the Institute for Medical Research and Occupational Health, Croatian Meteorological and Hydrological Service, the European Federation of Clean Air and Environmental Protection Associations (EFCA), and International Union of Air Pollution Prevention and Environmental Protection Associations (IUAPPA). The Conference was organized under the auspices of the Ministry of Environment and Energy and was held at the Hotel Zora, Primošten, Croatia. The meeting has been held regularly every odd-numbered year since 1997, except in 2003, when CAPP in cooperation with IUAPPA organized the 14th International Conference “Air Quality – Assessment and Policy at Local, Regional and Global Scales” in Dubrovnik instead of a national conference.

The president of the Scientific and Expert Committee of “Air Protection 2017” was Jagoda Doko Jelinić and the president of the Organizing Committee was Gordana Pehneć. Other members of the Scientific and Expert Committee were Silva Žužul, Renata Peternel, Krešimir Šega, Ivan Bešlić, Mirjana Čačković, Zdravko Špirić, Zdenko Franić, Ana Alebić Juretić, and Cleo Kosanović. The other members of the Organizing Committee were Nina Zovko, Vladimira Vađić, Ranka Godec, Silvije Davila, Lukša Kraljević, Predrag Hercog, Vedran Vađić, and Jasmina Rinkovec. Members of the Advisory Board comprised Ana Lucić Vrdoljak, Nataša Strelec Mahović, Tomislav Čorić, Thomas Reichert, John Murlis, and Richard Mills.

Participants of the conference were scientists and experts in the field of air pollution. Through this meeting, they had an opportunity to display the results of their work, indicate existing and potential problems, exchange experiences and opinions amongst each other, and mutually reach conclusions about future actions.

There were more than 130 participants from Croatia and abroad (United Kingdom, Germany, Hungary, Serbia, Macedonia, Poland, Turkey, Iran, Korea). The large number of participants and the 65 submitted presentations (53 oral presentations and 12 posters) clearly prove that both the international and domestic professional community are more than interested to learn about and discuss the ever-growing and threatening impact of air pollution on human

health and the environment. An abstract book (eds. J. Doko Jelinić and S. Žužul) containing presentation abstracts, both in Croatian and English, was distributed to the participants along with other materials. The Book of Abstracts can be found at the CAPP website (http://www.huzz.hr/sazeci/Zastita_zraka_2017.pdf). Authors were invited to send the results presented at the Conference in the form of a scientific paper to the journal *Archives of Industrial Hygiene and Toxicology*, the official journal of CAPP.

The conference started with three introductory lectures in English:

- Sources of Particulate Matter Pollution in Five Hungarian Cities (Zsófia Kertész, Institute for Nuclear Research, Hungarian Academy of Sciences, Debrecen, Hungary);
- Air Pollution Control in Macedonia and Croatia by Moss Biomonitoring (Trajče Stafilov, Institute of Chemistry, Faculty of Natural Sciences and Mathematics, Skopje, Macedonia);
- Applications of Odour Control Methods to Collection Systems for Domestic Food Waste (JiHyeon Song, Department of Civil and Environmental Engineering, Sejong University, Seoul, Korea).

and two introductory lectures in Croatian:

- International Activities of Croatian Air Pollution Prevention association (Vladimira Vađić, Institute for Medical Research and Occupational Health, Zagreb, Croatia);
- Role of Environmental Inspection in Monitoring of Air Quality System (Sandra Pezelj Meštrić, Ministry of Environment and Energy, Zagreb, Croatia).

Unfortunately, the introductory lecture “50 Years of Air Quality Research at Meteorological and Hydrological Service of Croatia” (S. Vidić, Meteorological and Hydrological Service, Zagreb, Croatia) was cancelled due to the illness of the presenter.

After the introductory lectures, the participants of the conference presented their experiences and the issues they encounter in their work through the following topics:

1. Managing air quality – inspection and control
2. Atmospheric emissions of pollutants
3. Monitoring ambient air pollution
4. Developing and testing measuring methods
5. Estimating exposure to air pollutants and impact on health
6. Air Protection in physical planning, construction, and environmental protection
7. EFCA session “Air Quality in Europe – Current State and New Challenges”
8. IUAPPA session “Air Pollution in Cities: International Perspectives”.

As in 2013 and 2015, a special session of the European Federation of Clean Air and Environmental Protection Associations was organized during the Conference. This year, the session was themed “Air Quality in Europe – Current State and New Challenges”. Five presentations were given by experts from Poland, Great Britain, Croatia, and Hungary. Andrzej Jagusiewicz, the newly-elected president of the EFCA as an introduction presented current EFCA policy and emerging issues. The next three presentations were dedicated to emissions from ships and maritime traffic, which present an important global source of air pollution. Donald Gregory (Exhaust Gas Cleaning Systems Association, United Kingdom) held a presentation entitled “Air Pollution from Shipping: Current Situation and Options for Emissions Reductions”, Ana Alebić Juretić (Teaching Institute of Public Health, Faculty of Medicine, University of Rijeka, Croatia) presented “Contribution of Maritime Traffic to Air Quality in The Port of Rijeka, Croatia” while Zdenko Franić (Institute for Medical Research and Occupational Health, Croatia) held a presentation “Accreditation of Verification Bodies for Assessment of Monitoring Plans and Verification of CO₂ Emissions in Maritime Transport”. The last presentation in the session (given by Gyula Kiss, MTA-PE Air Chemistry Research Group, University of Veszprém, Hungary) entitled “Data from Hourly PM Measurements: True or False?” discussed the problems that arise during automatic particulate matter measurements.

This year, for the first time a special session in English was organised in cooperation with IUAPPA. The session under the title “Air Pollution in Cities: International Perspectives” had five presentations and was focused on the challenge of controlling air pollution in contrasting cities across the developed and developing world. Presenters were scientists and experts from the United Kingdom, Turkey, and Iran. The first presentation entitled “Air Pollution and the Evolution of Cities” was presented by Richard Mills, IUAPPA Director General. The other presentations were “Tackling NO₂ and Particles in European Cities” (Murad Qureshi, Qureshi Associates, United Kingdom), “Managing Air Quality in Istanbul” (the new IUAPPA president Selahattin Incecik from the Istanbul Technical University, Turkey), “Traffic and Urban Air Pollution” (Sadreddin Alipour, Department of Environment, Iran), and “Transport Policy Options for Liveable Cities” (vice-president of EFCA John Murlis, EPUK, United Kingdom).

Within the conference, two important events took place: the annual meeting of the International Board of IUAPPA and the 27th Assembly of EC EFCA. The meeting of the International Board of IUAPPA was held on Tuesday, 3 October. Gordana Peh nec and Vladimira Vadić were present as the representatives of CAPP. At the meeting Selahattin Incecik from Turkish National Committee for Air Pollution Control (TUNCAP) became the new IUAPPA president. TUNCAP and IUAPPA will organize the next, 18th World Clean Air Congress in Istanbul from 23 to 27

September 2019 ([http://www.huzz.hr/Announcement-2_WCAC_\(1\).pdf](http://www.huzz.hr/Announcement-2_WCAC_(1).pdf)). The 27th Assembly of EC–EFCA was held on Wednesday, 4 October. Gordana Peh nec and Vladimira Vadić were present as the representatives of CAPP. During the meeting, the formal handover of the EFCA presidency was done, as the second term of EFCA president Thomas Reichert from the German member association GUS ended during 2017. Andrzej Jagusiewicz from the Polish Association PIGE was elected for the new president of the EFCA.

A Round Table discussion was held on 6 October. Moderators of the round table were Jagoda Doko Jelinić, Gordana Peh nec, Andrea Barišin, Sandra Pezelj Meštrić, and Lukša Kraljević. Initially, it was noted that at the previous “Air Protection 2015” it was established that there is a small number of medical professionals/health workers? at Air Pollution meetings, as well as a small number of studies on the effects of air pollution on human health. Over the past two years, the Association has tried to establish contacts with experts from this area.

During the first part of the Round Table, the possible causes for the significant scarcity of investigations of this type in Croatia, which are mostly carried out only at local level, were discussed. It was pointed out that there is a good, integrated database of air quality data and other environmental components through the portal of the Croatian Agency for Environment and Nature: data and reports from air quality monitoring stations are merged into a common database and publicly available. On the other hand, although there are numerous data on health effects, they are not integrated into a single database. There are annual reports and databases of county public health institutes and the Croatian Institute of Public Health, CEZIH system of the Croatian Health Insurance Fund and information systems of hospitals; however, there is no connection between these databases and these data are not easily available to the scientific community. This is probably the main obstacle to research on the impact of polluted air on human health in Croatia. Merging existing data into a single, integrated database would enable systematic research on national level. An integrated database from health care systems could be linked in the future with meteorological data, air quality data, and allergen (pollen) monitoring data. The availability and monitoring of these parameters in real time would allow forecasting of critical situations and preparation of preventive activities in the future (e.g. enhanced alert of health services/emergency admissions). The participants of the Round Table supported the idea of integrating health data into a single database and it was agreed to send this proposal to the relevant institutions.

Furthermore, the participants discussed the problems experts and institutions face due to insufficient public knowledge regarding the problem of air pollution and the lack of understanding of the interpretation of measuring results. It was shown that public availability of data has

numerous advantages but also poses certain problems. Concerned citizens frequently burden inspection and other services with their inquiries and complaints because they do not know how to correctly interpret the measurement results available on portals (e.g. they do not distinguish between original (non-validated) and validated data, they are concerned when hourly values exceed the limit value set for the annual average, etc.). This problem is also recognized at EU level and the Commission is developing a new air quality index that will be clearer to the general public and uniform at the European level. The new indices will contain more extensive explanations, and will probably be in use by the end of 2017.

A special problem also stems from measurements of air quality during accident events (e.g. fires). Regulations contain limit and target values for only a limited number of pollutants, which are not always the best indicators in the case of specific accidents. At this time, there is no crisis headquarters for the issue of air pollution and no procedure for accidental situations is prescribed in the regulations. Internal and external plans exist only for large facilities and they prescribe the treatment in such situations. It was discussed whether such accidental situations should be excluded from the annual air quality assessment and whether this issue could be regulated by special regulations or plans.

Also, during the Round Table discussion it was pointed out that the role of the local community and local monitoring

networks has been neglected in recent years and that there is a large number of cities where no air quality measurements are being carried out currently.

The "Air Protection 2017" conference was supported by IUAPPA, which organized a lunch for all of the participants on Thursday, 5 October, after the IUAPPA session. CAPP is particularly grateful to all of the co-organizers as well as to the sponsors: Kemolab, Mettler Toledo, Alphachrom, AnAs, Hebe, Ekonerg, Kobis, Labomar, CIOS, Ru-Ve, and Kefo, and expresses its great appreciation to all who helped the organization of the Conference.

Gordana Pehnc, PhD
president of the Organizing Committee

The figures on the right are as follows:

a: Opening of the Conference; b: Opening ceremony – Andrzej Jagusiewicz, president of EFCA; c: Introductory lectures; d: Members of EC EFCA after the 27th Assembly meeting; e: EFCA session - John Murlis, vice-president of EFCA; f: EFCA session - chairmen Thomas Reichert and Vladimira Vađić, vice-presidents of EFCA; g: IUAPPA session - Richard Mills, IUAPPA General Director; h: IUAPPA session – Selahattin Incecik – IUAPPA President; i: Lunch organized by IUAPPA, after EFCA and IUAPPA session; j: Participants of "Air Protection 2017"; k: Poster session; l, m, n: During the Conference

CTDC10 and 12SCT REPORT

On 18-21 April 2018, Belgrade (Serbia) hosted a joint 10th Congress of Toxicology in Developing Countries and the 12th Serbian Congress of Toxicology was held in Belgrade, Serbia. The idea of organising the meetings together was born and endorsed by the International Union of Toxicology (IUTOX) and the Serbian Society of Toxicology (SETOX) a few years ago. This was the first time that Serbia had the opportunity to host a worldwide international toxicology meeting gathering representatives from surrounding countries such as Croatia, Macedonia, Bosnia and Herzegovina, Montenegro, Hungary, Romania, but also from destinations as remote as the United States, Australia, Japan, China, and South Africa.

The activities covered by the organisers (SETOX and IUTOX) under the auspices of the Serbian Academy of Sciences and Arts (SASA) started on 16 April with a two-hour panel discussion "Toxicology and Us". The President of SETOX, the honoured academicians, and eminent experts informed the audience about the current occupational and environmental exposure, food and water safety in Serbia, as well as smoking habits and its health effects. The panel stirred a vivid discussion and raised more toxicological and ecotoxicological issues in our region. This event was followed by the opening ceremony with the exhibition "History of Toxicology", which was held at the Gallery of SASA. Thanks to Philip Wexler and the National Library of USA, the visitors had the opportunity to see posters and learn more about the history of toxicology across the world and Serbia, see the first books of toxicology printed in Serbian, learn more about the development of forensic, clinical, and occupational toxicology in Serbia, and see analysis and case reports from toxicological practice. The exhibition was seen by many Belgrade residents and the CTDC10 congress participants.

Pre-congress activities, also included four continuing education courses (CECs): 1) Carcinogenicity studies: perspectives on design and execution for successful product registration (presented and sponsored by the American College of Toxicology), 2) Health-based limits for toxicological risk assessment: setting acceptable daily limits for pharmaceutical and chemical safety (*ibid.*), 3) RISK21: a practical framework for risk assessment in the 21st century (presented and sponsored by the British Society of Toxicology), and 4) Water security: integrating lessons learned for water quality and sustainability. The courses were attended by about 100 participants.

The Congress started on 18 April at 6 pm. At the opening ceremony, the participants were welcomed by the President of SETOX Vesna Matović and the President of IUTOX Jun Kanno. Ali Esat Karakaya received the Lifetime Achievement Award and the travel award winners (sponsored by IUTOX, SOT, and NIEHS) were presented to the audience. Professor Mary Gulumian, head of the Toxicology Research Projects, National Institute for

Occupational Health (NIOH) and former President of the Toxicology Society of South Africa, gave the keynote speech: "State of science and profession of toxicology on the African continent: lessons learned from challenges, advancements, and future developments".

The Congress also included four plenary lectures, 16 symposia, four workshops, three short communications and three round tables. The round tables entitled "Promoting undergraduate toxicology education and career opportunities for students in developing countries", "Women in toxicology in developing countries" and "Toxicology for health in the United Nations Sustainable Development Goals" reaped great success and the first two are available for viewing at www.ctdc10.rs. After the round table "Women in toxicology in developing countries", the president of SOT Patricia Ganey and the President of ACT Tracey Zoetis presented the goals and main activities of these two societies, which provide great support to toxicology societies in developing countries.

Furthermore, the WHO organised the Chemical Risk Assessment Network Meeting with more than 30 participants. This scientific program was complemented with lectures by prominent scientists from around the world on topics covering many aspects of toxicology. There was also a plenary workshop "Toxicology data and online tools in support of research and publications" and a round table that presented the main goals and further activities of the WHO concerning human and environmental health.

Figures alone speak about the success of the joint congress 357 participants from 57 countries, 126 speakers, 21 short communication presenters, 180 poster presenters, 348 abstracts.

Beside the excellent scientific programme, the participants enjoyed an attractive social programme, including the charming sightseeing of Belgrade and a gala dinner on a floating boat with live music. At the end of the closing ceremony, we had a chance to see the national dance and a film about beautiful Malaysia, the host of the next CTDC congress in 2021. We wish them all the best!

Once again, I would like to express my deepest gratitude to the IUTOX EC members, who had given the Serbian Society of Toxicology the opportunity to organise this CTDC congress, and to all our sponsors, who made this congress organization possible! A huge thanks also goes to all our amazing partners and all of the participants.

Vesna Matović
CTDC10 President
President of the Serbian Society of Toxicology