The 15th International Symposium on High Pressure Low Temperature Plasma Chemistry (HAKONE XV)

The 15th International Symposium on High Pressure Low Temperature Plasma Chemistry (HAKONE XV) was held in Brno, Czech Republic, from September 11th to 16th 2016. The conference was jointly organized by the Masaryk University (CEPLANT, Department of Physical Electronics at the Faculty of Science) and The Union of Czech Mathematicians and Physicists Brno, Czech Republic. With HAKONE XV a series of successful conferences devoted to the fundamentals and applications of non-thermal plasmas at elevated pressures was continued. Over 120 regular attendees, 8 accompanying persons and guests from 26 different countries participated and submitted 118 contributions in 9 different topics.

HAKONE is a bi-annual symposium bringing together scientists and engineers working on subjects in the basic research and technology of high pressure (typically 1 bar) and low temperature plasma chemistry. The traditional HAKONE topics are dealing with fundamental aspects of gas discharge physics and chemistry at elevated pressures, surface processing technology, ozone generation and environmental applications and were represented strongly also in Brno. However, gradually in time the scope of HAKONE interests has been extended to newly emerging and innovative fields of research and development, like biomedical plasma applications, alternative materials, fuels and other interdisciplinary plasma topics. The invited lectures covered the following topics:

- Plasma-based CO₂ conversion: A combined modeling and experimental study by Annemie Bogaerts (Belgium).
- Optical emission diagnostics for nanosecond microdischarges at atmospheric pressure by Yi-Kang Pu (China).
- Measurement of electric field in atmospheric pressure discharges using Stark polarization spectroscopy by Bratislav Obradović (Serbia).
- Non-thermal plasma combined with catalysts for environmental technology by Akira Mizuno (Japan).
- Confined atmospheric plasma sources for activating gases, liquids and tissue by Mark J. Kushner (USA).
- Lateral patterns in glow-like barrier discharges by Lars Stollenwerk (Germany).

It was a pleasure to welcome also the community of joint one-day COST action Workshop TD1208 on Electrical Discharges with Liquids for Future Applications. This workshop enriched the scope of the conference for following invited lecture:

- Plasmas interacting with liquids: Energy transfer and chemistry by Antoine Rousseau (France).

The HAKONE XV conference was dedicated to the memory of Dr. Ulrich Kogelschatz, who passed away in June 2016. Ulrich Kogelschatz was an outstanding scientist and good friend to many of us, and one of the founders of the HAKONE symposium.

The ISC continued the collaboration with the European Physical Journal – Applied Physics and prepared this special issue of the journal devoted to the conference. All contributed papers of the HAKONE XV symposium are available in the conference proceedings distributed electronically to all participants. They are also publicly available here: https://munispace.muni.cz/book?id=836.

Finally we would like to thank all participants of HAKONE XV and invite the readers of the journal to the next HAKONE symposium, which will be held in fall 2018 in Beijing, China.

Tomáš Hoder
Vice-chair of the Local Organising Committee

Mirko Černák
Chair of the International Scientific Committee
The organizing committee of the 15th International Conference "Gas Discharge Plasmas and Their Applications (GDP 2021)" would like to cordially invite you to take part in the Conference from the 5th up to the 10th of September 2021, which will be held in Ekaterinburg, located in the heart of the Ural region on the border of Europe and Asia. Plasma-chemical, electrophysical and laser technologies: environmental applications, production of nanopowders and functional materials. Sources of low-temperature plasma: generators of continuous, pulse-periodic and pulsed action, gas switches, power supply. Key dates. Online registration open Abstract submission open. 15.01.2021. Abstract submission deadline. 14.04.2021. "Contribution to the topical issue "The 15th International Symposium on High Pressure Low Temperature Plasma Chemistry (HAKONE XV)" edited by Nicolas Gherardi and Tomas Hoder. Inside the plasma "core" region with voltage-charge plots a localized power distribution is investigated. The relation of input power and dissipated power in the core region is discussed in order to derive the "effluent" power. @article{Hoder2017The1I, title={The 15th International Symposium on High Pressure Low Temperature Plasma Chemistry (HAKONE XV)}, author={T. Hoder and M. Černák}, journal={European Physical Journal-applied Physics}, year={2017}, volume={79}, pages={30801} }. T. Hoder, M. Černák. Published 2017. Chemistry. European Physical Journal-applied Physics. The 15th International Symposium on High Pressure Low Temperature Plasma Chemistry (HAKONE XV) was held in Brno, Czech Republic, from September 11th to 16th 2016. With HAKONE XV a series of successful conferences devoted to the fundamentals and applications of non-thermal plasmas are held every three years, the last occurring in Beijing, China in 2012, after Davis, USA in 2009. We are waiting for you in 2016 from March 29th to April 1st in the city of Joan of Arc along the Loire river, UNESCO world heritage site. The conference will be held in the Centre de conference d'Orléans located near the center of the town, close to its historic part. The focus of the meeting will be to bring together people from the fields of chemistry, materials science, earth and planetary science, metallurgy who are working i... New insights in very high temperature materials science.