Special Issue: Papers by Invited Lecturers at the 23rd International Symposium on Plasma Chemistry (ISPC 23)

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The 23rd International Symposium on Plasma Chemistry (ISPC 23) was held in the multicultural city of Montréal, Canada, from July 30th to August 4th, 2017. The conference was chaired by Prof. Sylvain Coulombe from the Plasma Processing Laboratory of McGill University and co-chaired by Prof. Luc Stafford, from the Groupe de Physique des Plasmas of Université de Montréal.

ISPC 23 welcomed 428 attendees from 31 countries: 182 from Europe and Middle East, 89 from Asia, Africa and Australia, and 157 from the Americas. A total of 421 oral and poster presentations were delivered, including the Plasma Chemistry Award lecture, 5 Plenary Speaker lectures, 22 Invited Speaker lectures, 128 regular oral presentations (52 by students), 231 posters (95 by students) and 34 3-min poster pitches (all students) distributed over the 11 scientific and application topics. The two-day Summer School preceding the symposium welcomed 62 attendees.

The Plasma Chemistry Award 2017, the highest recognition awarded by the International Plasma Chemistry Society (IPCS) for lifetime achievements in the field of Plasma Chemistry, was attributed to Professor Mark J. Kushner from the University of Michigan. The Young Investigator Awards 2017 were attributed to Ramses Snoeckx from the University of Antwerp, Belgium, and Santosh Kondeti from the University of Minnesota, USA. 3-min poster pitch awards were attributed to Samantha Hill (1st place) and Anna Meshkova (2nd place). Oral presentation awards were attributed to Amanda Lietz and Adam Obrusnik. Finally, poster awards were attributed to Kristof Bal (1st place), Yifei Zhu

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(2nd place) and Mathew Evans (3rd place). Prof. Dr. Richard van de Sanden from DIFFER and the Eindhoven University of Technology and Prof. Gottlieb Oehrlein from the University of Maryland were erected to the rank of IPCS Fellow (FIPCS).

The International Plasma Chemistry Society (IPCS) sponsored 30 early bird registrations for graduate students from all over the planet. Numerous sponsors contributed to the symposium, including the City of Montréal, Tekna Plasma Systems, Matamec, Plasmionique, Swagelok, Trek, MeaGlow, PyroGenesis, Polycontrols, Hiden Analytical, Sairem, Vacuum Products Canada, Plasco, Systems for Research Corp., and NanoIntegris and Raymor Nanotech. Several of these sponsors had exhibition booths during the symposium. ASM—International provided the monetary awards and certificates for the two Young Investigator Awards while Institute of Physics Publishing, Springer and Wiley funded and provided the certificates for the oral and 3-min pitch presentation awards as well as the poster awards.

This special issue of Plasma Chemistry and Plasma Processing contains five manuscripts based on the invited contributions presented at ISPC 23. All papers submitted underwent the full refereeing procedure of the journal. The peer-reviewed articles are by invited speakers Goerghe Dinescu (Hybrid nanomaterial architectures: combining layers of carbon nanowalls, nanotubes, and particles), Lorenzo Mangolini (Graphitization of carbon particles in a non-thermal plasma reactor), Paolo Tosi (Time-resolved CO₂ dissociation in a nanosecond pulsed discharge), Vincent Rat (Plasma spraying of solution precursor in pulsed mode: In-flight phenomena and coating deposition), Selma Mededovic Thagard (An experimental investigation of the liquid flow induced by a pulsed electrical discharge plasma) and their coauthors. This selection represents the general trend of the symposium, with contributions in both non-thermal and thermal plasma science and technology. Complete Symposium proceedings are available online at <http://www.ispc-conference.org/>.

Finally, we wish to thank all who contributed to the organization of ISPC 23!