

## MeetingReport

# 18<sup>th</sup> International Microscopy Congress (IMC 2014)

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The world's largest international microscopy event, held every four years under the auspices of the International Federation of Societies for Microscopy (IFSM), took place September 7–12, 2014, in Prague, the Czech Republic. The Congress chairman was Prof. Pavel Hozák (Figure 1), current president of the Czechoslovak Microscopy Society and the head of the Cell Nucleus Biology Department at the Institute of Molecular Genetics of the Academy of Sciences of the Czech Republic.

The 18<sup>th</sup> International Microscopy Congress (IMC 2014) was attended by 3,125 microscopists from 68 countries. The Congress broke the record for the number of IMC participants. This prestigious event organized by the Czechoslovak Microscopy Society provided not only a rich program thematically divided into four specializations (instrumentation and techniques, materials science, life sciences, and interdisciplinary specialization), but also hosted one of the world's largest international showcases of microscopy instrumentation. The latest technological achievements were presented by 82 exhibitors. The scientific program included 8 plenary lectures, 58 symposia with more than 500 oral presentations, and more than 1,700 posters presentations [1, 2].

The first plenary speaker, Prof. Christoph Cremer (Institute of Molecular Biology, Mainz/Germany), in his presentation titled "Light Microscopy at the Nanoscale," gave an overview of the development of super-resolution microscopy techniques from the very first attempt to overcome the Abbe diffraction limit to the most modern current instruments. The second excellent plenary presentation, "Illuminating biology at the nanoscale with single-molecule and super-resolution fluorescence microscopy," was given by Prof. Xiaowei Zhuang (Howard Hughes Medical Institute, Harvard

University, USA). Prof. Zhuang talked about the main concepts of stochastic optical reconstruction microscopy (STORM), a method that breaks through the diffraction limit, allowing visualization of sub-cellular structures. The third plenary lecture was given by Dr. Kazutomo Suenaga (National Institute of Advanced Industrial Science and Technology, Japan), who talked about single-atom imaging and spectroscopy in nanostructured materials. The fourth plenary lecture on electron tomography for nanoscale materials science was given by Prof. Paul Midgley (University of Cambridge, UK).

The other four plenary lectures were delivered by the winners of the IFSM medals during Friday's IFSM Symposium: (1) The John Cowley Medal laureate: Prof. John Spence (Arizona State University, Physics/LBNL, USA),

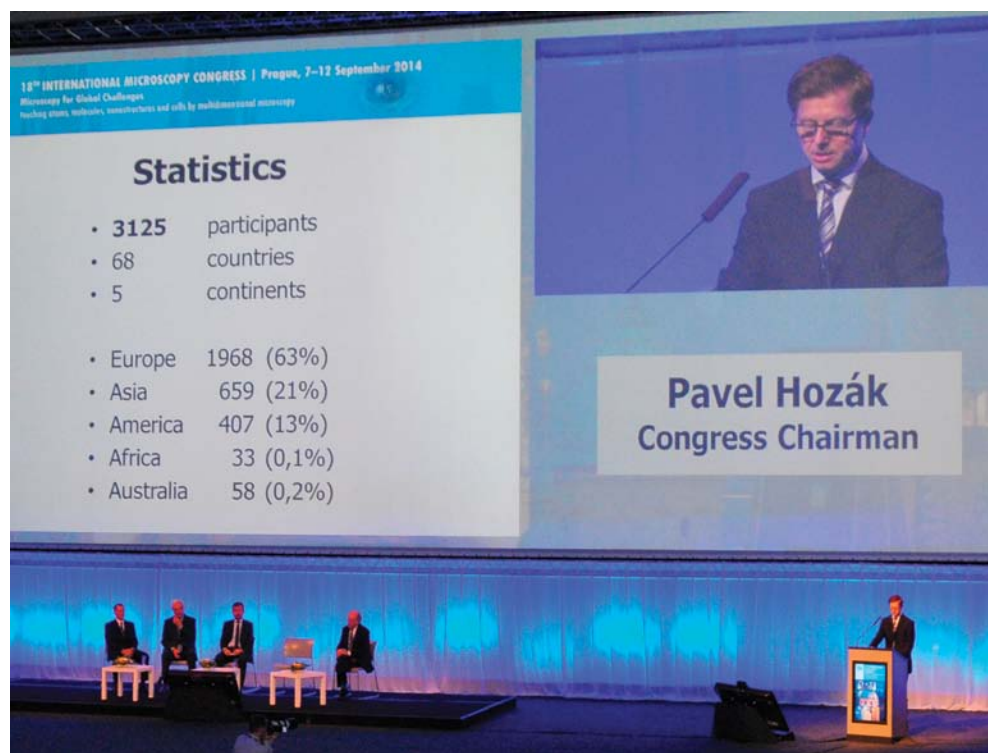


Figure 1: Prof. Pavel Hozák, IMC 2014 chairman, presented statistics on the Congress during the opening ceremony.

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Figure 2: Participants of the IFSM school.



Figure 3: Interactive Exhibition “Labyrinth of Microscopy,” the IMC 2014 side event targeted at the public.

“Some surprises in electron diffraction physics and imaging”; (2) The Hatsujiro Hashimoto Medal laureate: Prof. Chunlin Jia (Ernst Ruska – Centre Jülich, Germany, and International Centre for Dielectric Research, Xi’an Jiaotong University, China), “From Atomic Structure to Properties of Oxides: Applications of Aberration-corrected Transmission Electron Microscopy”; (3) The Eduard Kellenberger Medal laureate: Dr. Alasdair Steven (National Institute of Arthritis and Musculoskeletal and Skin Diseases, USA), “Macromolecules in Motion: Visualization by 4-Dimensional Cryo-EM”; and (4) The V. Ellis Cosslett Medal laureate: Dr. Ondrej L. Krivanek (Nion Company and Arizona State University, USA), “From the Prague Spring to a Spring in Electron Microscopy.”

Support for students and young scientists to attend the Congress has been an important tradition of these congresses. Therefore, the IMC 2014 provided scholarships and travel grants to 270 young researchers. The IFSM School is another

commendable tradition of the Congress. This year, 50 young scientists were invited to attend the 3<sup>rd</sup> IFSM School, which was hosted by Prof. C. Barry Carter. As in previous years, the four classes were taught by respected experts in their fields: Dr. Joe Michael, Prof. Paul Midgley, Prof. David Williams, and Prof. Barry Carter (Figure 2).

The winner of the Vox Populi Award in the IMC 2014 Micrograph Competition “Art in Microscopy” was Miroslav Horacek (Institute of Scientific Instruments of the Academy of Sciences, Czech Republic). The winning entry was a micrograph titled “Raindrop: Computer generated diffractive optical performance of fractal originated by e-beam writer.”

The Congress hosted a series of accompanying events such as pre- and post-congress work-

shops, business meetings of scientific societies, lunch workshops, technical seminars, etc. The largest side event, called “Labyrinth of Microscopy,” was targeted at children and students [3]. This interactive exhibition introduced current microscopy methods related to life science and physical science (Figure 3). The exhibition was attended by more than 3,000 visitors.

Finally, we would like to thank the microscopy community for their support and enthusiasm in making the IMC 2014 a great success. We wish good luck to the organizers of the next 19<sup>th</sup> International Microscopy Congress, which will take place in Sydney, Australia in 2018. We hope to see you in Sydney.

## References

- [1] 18<sup>th</sup> International Microscopy Congress (IMC 2014) website, <http://imc2014.com/index.php?page=home>.
- [2] IMC 2014 Proceedings, <http://www.microscopy.cz>.
- [3] Interactive Exhibition “Labyrinth of Microscopy,” <http://mikroskopiehrou.cz/index.php?page=home>.

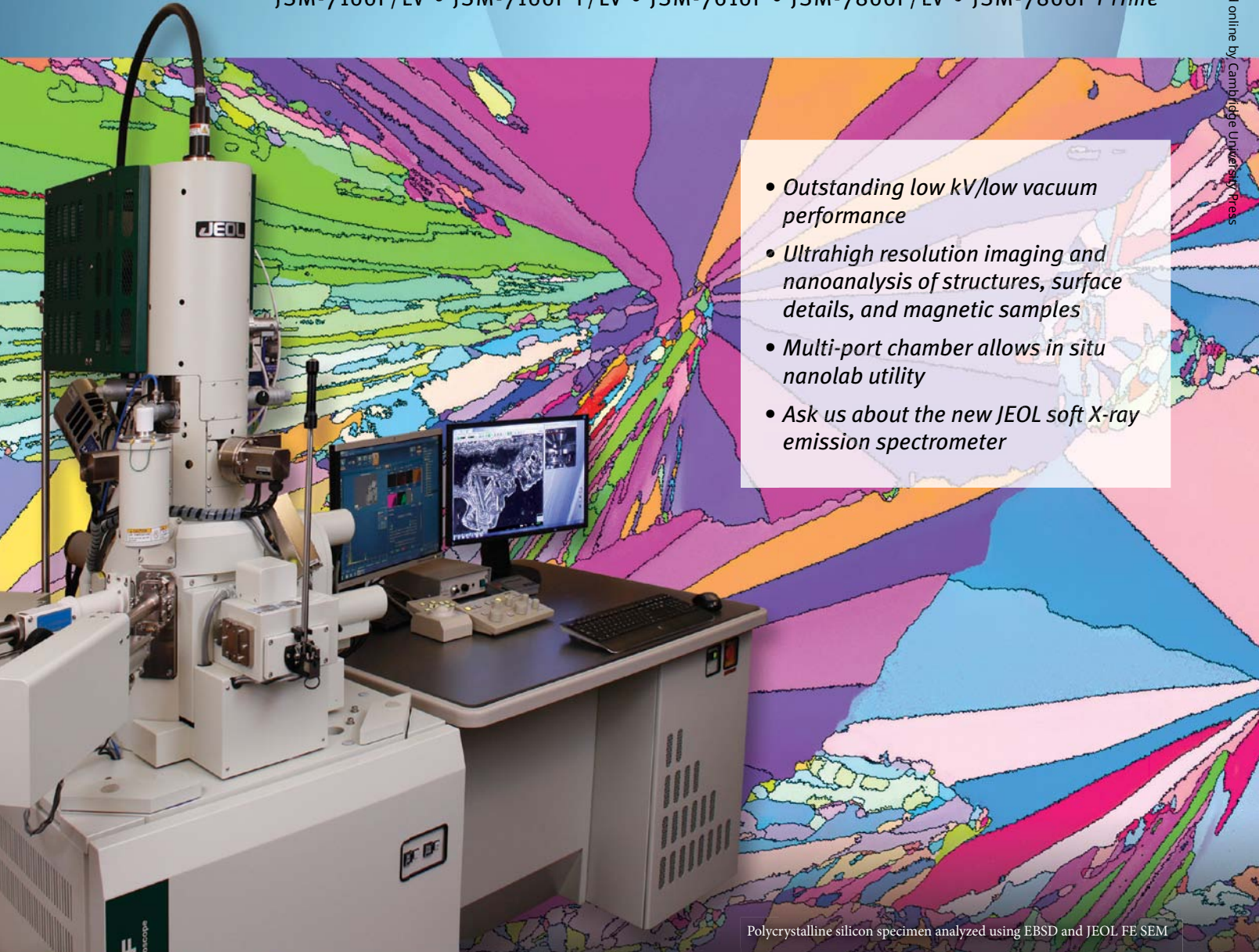
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