P r e f a c e

The 10th International Workshop on Positron and Positronium Chemistry (PPC-10) was held in the Smolenice Castle, Slovakia, during September 5 to 9, 2011. The Smolenice Castle is located on the eastern foothills of Little Carpathian Mountains, about 50 km north of Bratislava, the capital of Slovakia. The Castle is used as a conference center of the Slovak Academy of Sciences. Indeed, the Institute of Physics of the Slovak Academy of Sciences together with the Slovak Technical University, Bratislava, and the Charles University in Prague, Czech Republic, were the organizers of the Workshop. Furthermore, the Workshop was organized in cooperation with the International Atomic Energy Agency, Vienna, Austria. The PPC-10 meeting continues the long tradition of previous PPC meetings that started in Blacksburg, Virginia, USA, in 1978.

The PPC-10 Workshop enjoyed broad international participation. In total, there were 83 scientific participants from 24 countries covering all the continents. This rich participation resulted in 98 presentations. In particular, there were 22 plenary and invited lectures, 36 contributed talks, and 40 poster presentations.

At the PPC-10 Workshop, many interesting subjects were discussed from which we would like to mention a few such as the attempt to utilize free-positron lifetime to get information on free-volume in polymers, consideration of finite size of Ps and its effect on the bubble, effect of nano-confinement of liquids, Ps^- formation and Ps beam as well as a novel measurement technique using a scintillator for non-sandwich setup for measurements. Significantly, a lot of attention was on membranes used for molecular separation as well as fuel cell applications. Interesting studies on positron/Ps systematic in porous materials, structural as well as hydrogen storage materials, and semiconductors were also presented. This meeting showcased the state of the art facilities like the intense positron beam facility at Munich, positron microprobe at AIST, Japan as well as GiPS facility at Dresden, Germany, which are seen as key drivers for the growth in positron and positronium chemistry.

These Proceedings – based on a careful peer-review procedure – contain 66 papers which are divided into ten chapters covering the following topics: fundamental aspects (of positron and positronium chemistry), membranes, molecular systems, confined systems, liquids, polymers, porous systems, non-metallic materials, nuclear materials, and experimental techniques. It should be pointed out that without the commitment of authors to positron and positronium chemistry and related subjects, this volume could not be produced.

Finally, we would like to express our gratitude to all workshop participants for their presentations and discussions, which made the PPC-10 Workshop a successful scientific event. The hard work of the organizing committee is also greatly appreciated. It is our pleasure to acknowledge the generous financial support from the International Atomic Energy Agency and the Slovak Nuclear Society. As for the future, the next PPC workshop will be organized by the Bhabha Atomic Research Centre positron group in India (Mumbai or its neighborhood) in 2014. Last but not least, it is worth mentioning that 2011 was the International Year of Chemistry, and the PPC-10 Workshop, including these Proceedings, represents a contribution to this world-wide event.

September 2012

Jozef Krištiak
Jan Kuriplach
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Editors

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