

# Editorial

## **EPRBioDose 2018: THE JOINT INTERNATIONAL SYMPOSIUM ON EPR DOSIMETRY AND DATING AND THE INTERNATIONAL CONFERENCE OF BIOLOGICAL DOSIMETRY**

Dear Reader,

In 1998, the series of EPRBioDose Conferences was launched with extended scope by merging the International Symposium on Electron Paramagnetic Resonance (EPR) Dosimetry and Dating and the International Conference on Biodosimetry. From 11 to 15 June 2018 the EPRBioDose 2018 conference was hosted in Europe the fourth time and was held at the Helmholtz Zentrum München, German Research Center for Environmental Health (HMGU) in Munich, Germany. For the first time the conference was jointly organized by three institutes, the Institute of Radiation Protection of the HMGU, the Section Radiation Biology and Biological Dosimetry of the Federal Office for Radiation Protection (BfS) and the Institute of Radiobiology of the German Armed Forces (BIR), all located in close neighborhood in Munich, Germany.

Since 2013, the series of EPRBioDose conferences are organized under auspices of the International Association of Biological and EPR Radiation Dosimetry (IABERD, [www.iaberd.org](http://www.iaberd.org)). The aim of this scientific association is to sustain cooperation over time between scientists working in the fields of cytogenetic and molecular dosimetry as well as EPR dosimetry and dating by providing a common framework for organizing the conferences bi- or tri-annually.

The EPRBioDose 2018 was attended by 151 participants, including 12% of students, from 30 nations. The conference topics covered: biomarkers, biological and EPR dosimetry for medicine, emergency and epidemiology, networking and quality assurance and management in biological and EPR dosimetry, and EPR dosimetry and dating. After reviewing of the submitted abstracts by the Scientific Advisory Committee, 55 oral and 93 poster presentations were accepted. The ten invited and key note lectures complemented by the presentations from six oral and two poster sessions were intensively discussed in an animated and lively atmosphere.

The presentations highlighted further developments of established methods of biodosimetry such as for the dicentric chromosome analysis as well as new emerging techniques including molecular approaches such as gene expression analysis. EPR dosimetry was focused on the use of small amounts of biological samples, as well as identification of new materials and innovative evaluation techniques for dose reconstruction. In particular, high-throughput approaches or the automation of labor-intensive laboratory methods up to fully automated image analysis point to the future of diagnostics in the field of mass casualty scenarios. Further research and the extension of research areas was considered as necessary to improve current understanding of the basic molecular principles of living organisms following exposure to ionizing radiation.

The EPRBioDose conference was accompanied by satellite meetings of the European network RENEB (Running the European Network of Biological and Physical Retrospective Dosimetry) and the global network BioDoseNet of the WHO (World Health Organization), and working groups of the ISO (International Organization for Standardization) working on the development of standards for the optimization of biodosimetry in the context of radiation accident management.

The conference was also the opportunity for the members of the IABERD association to meet. An executive committee meeting, and a scientific committee meeting took place to prepare the general assembly meeting held at the end of the conference. After a very positive work statement of the last period, a new board was elected during this general assembly and some new members of the scientific committee were elected. The association includes almost 50 members. One main decision taken during the general assembly was the time and place of the next conference. The next EPRBioDose conference will be held in Okoyama, Japan from 3 to 7 November 2020.

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A social highlight of the conference was the conference dinner at a traditional brewery with a very pronounced Bavarian folkloristic coloration, foreshadow to the international guests the experience of the 'Oktoberfest' already in June. A highlight of the conference dinner was the awards ceremony for young scientists. At EPRBioDose 2018, four poster awards were sponsored by IABERD, RENEB and EURADOS (European Radiation Dosimetry Group). The selection committee was either a panel of experts or all conference participants, judging the candidates according to scientific excellence and quality of poster presentation. The four winners were Margarita Tzivaki (Canada), Yohei Fujishima (Japan), Ya Abe (Japan) and Toshitaka Oka (Japan).

The conference further attracted six sponsors and industrial exhibitors. We would like to thank the Silver Sponsor Meta Systems GmbH, the Bronze Sponsors Bruker BioSpin GmbH, Freiberg Instruments GmbH, Magnettech GmbH and DxTerity and the further sponsor Xstrahl Limited. Their financial support was important for the success of the conference and is gratefully acknowledged.

The presidents of the EPRBioDose 2018 conference and the IABERD are grateful to the local conference organizing team Christina Beinke, Ursula Oestreicher and Clemens Woda whose ideas and

preparatory work made the success of the conference possible.

These proceedings include 24 contributions and provide a comprehensive account of the state of the art of biodosimetry with physical and biological methods, and EPR dosimetry and dating.

*EPRBioDose 2018 conference co-presidents.*

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