



Engineering and Physical Sciences (EPS) Committee

Professor Roland Kröger

October 2020

Our committee is representing the broad and interdisciplinary engineering and physical science community, who use advanced microscopy- and spectroscopy-based techniques to address engineering and physical science problems. Our committee is engaged in a wide range of EPS activities such as workshops, seminars and conference sessions concentrating on scientific themes that aim to improve our understanding of materials, machines and engineering systems including Energy and Energy storage, Biomaterials, Structural/Geological materials, Advanced 3D manufacture, Devices, and Surface engineering.

Since November 2019, the Chair of this Committee is Professor Roland Kröger with Dr Anna Baldycheva as Deputy Chair.

This year the committee work, as all RMS activities, were strongly affected by the COVID-19 pandemic since unfortunately a number of planned conferences and workshops (such as emc2020 in Copenhagen and the EBSD workshop in Sheffield) had to be cancelled or postponed as was the case across the RMS.

Before the COVID lockdown the EPS committee met with the Electron Microscopy committee and Dr Lucy Collinson and Professor Roland Kröger co-chaired a joint meeting at the Natural History Museum in London, which was perceived as innovative and inspiring with a lot of exciting discussions about collaborative future activities on a variety of topics (e.g. an X-ray FIG, Big data, Elemental analysis, Clinical and diagnostic EM, Beam damage, Correlative/multimodal, Bio/materials interfaces). We are looking forward to developing this collaboration in the future.

Furthermore Professor Roland Kröger and Professor Grace Burke are currently involved in the organisation of an international webinar-based Materials Science/Life Science Programme together with the Microscopy Society of Canada (Dr Natalie Reznikov) and the Israel Society of Microscopy (Professor Amit Kohn). In times of COVID this is an opportunity to develop novel approaches to for international research seminars.

Despite COVID some events were successfully organised with involvement of EPS committee members such as the PicoFIB Meeting in Sheffield on 20 January organised by Professor Beverley Inkson, which attracted 35 participants amongst them a substantial number of international speakers and the X-ray Focused Interest Group (FIG), which has been set up under the lead of Dr Liz Duke (DLS, EM committee) jointly with Dr Julia Parker (DLS, EPS committee). This FIG has met twice since February 2020 and enjoys strong resonance across the two committees. This initiative is one of the outcomes of the joint meeting of EPS and EM committees in February. A planned event at DLS this November had to be postponed due to COVID restrictions but will go ahead in 2020.

Three planned sessions for the MMC 2021 will be organised by members of the EPS committees, namely the Volume Imaging and Focused Ion Beam workshop (Dr Xiangli Zhong) as well as an X-ray microscopy session (Dr Julia Parker/Dr Liz Duke). Furthermore EPS committee members (Dr Duncan Muir and Dr Owen Green) will be involved in the organisation of an Earth and Planetary Science session in collaboration with EMAG.

It also is my pleasure to confirm that at the mmc2021 the *EPS Medal for Innovation in Applied Microscopy for Engineering and Physical Sciences* will be awarded to Dr Wing Chung Tsoi (Swansea University) for his contributions to advanced Raman microscopy mapping techniques.

Newly joining the EPS committee as members will be Dr Fabio Nudelman (University of Edinburgh), Dr Dan Haspel (University of Plymouth) and Professor Igor Meglinski (Aston University, Birmingham) who will strengthen the biological materials and electron microscopy profile of our committee.

I would like to especially thank Dr Owen Green who, as a member of the EPS committee, is so actively engaged on the Outreach and the Training FIG, for his valuable contributions, and the great support by the RMS team in particular Allison Winton and Amanda Jarman who continue to make crucial contributions to see events and committee meetings run smoothly.

Further, I would like to say great thanks to the outgoing members Dr Dogan Ozkaya and Paul Gunning for their invaluable work throughout the EPS committee membership. Both of them will join the RMS council.

Last not least I wish to thank all members of the EPS committee for their relentless engagement in all areas covered by our committee and who show such an impressive level of creativity and positivity in particular under the difficult conditions we are currently facing.

Professor Roland Kröger
Chair, EPS Committee