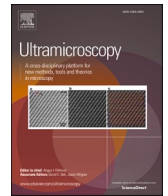




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Editorial



Introduction to a special issue on Frontiers of Aberration Corrected Electron Microscopy in honour of Wolfgang Baumeister, Colin Humphreys, John Spence and Knut Urban on the occasion of their 75th, 80th, 75th and 80th birthdays

This special issue of Ultramicroscopy is a Festschrift in honour of Wolfgang Baumeister, Colin Humphreys, John Spence and Knut Urban on the occasion of their 75th, 80th, 75th and 80th birthdays, respectively, as well as a compilation of invited presentations given at PICO 2021 – the Sixth Conference on Frontiers of Aberration Corrected Electron Microscopy – situationally held merely as a virtual event from 2 to 6 May 2021.

It contains original research and review articles, in particular those written by colleagues who have had the privilege of working together with Wolfgang Baumeister, Colin Humphreys, John Spence and Knut Urban or have benefited from their achievements in both theoretical and applied electron microscopy research. It also contains manuscripts based on some of the keynote presentations given during the PICO 2021 conference organised by the Ernst Ruska-Centrum jointly operated by RWTH Aachen University and Forschungszentrum Jülich GmbH, Germany.

PICO 2021 attracted approximately 250 participants from academia, industry and national laboratories and received major sponsorship from Thermo Fisher Scientific Inc, JEOL (Germany) GmbH, Ametek GmbH Business Unit Gatan, Attolight AG, CEOS GmbH and Forschungszentrum Jülich GmbH. The conference owes its success to the thorough organisational work carried out by Gabriele Mertzbach and Genevieve Wilbs, who deserve special thanks.

This special issue begins with an overview written by Peter Hawkes highlighting the careers and most important scientific achievements of Wolfgang Baumeister, Colin Humphreys, John Spence and Knut Urban, all of whom have developed and applied the latest electron microscopy techniques to understand a wide range of life science and condensed matter phenomena, as well as teaching and supporting generations of students and young scientists. Subsequent manuscripts are arranged

alphabetically in order of the first author's surname. Each manuscript has been peer-reviewed by two or more referees, to whom the guest editors are very grateful for their efficient and speedy work.

The pioneering research carried out by Wolfgang Baumeister, Colin Humphreys, John Spence and Knut Urban, is recognised in the form of review articles and original manuscripts, which describe research activities in electron optics, electron microscopy and electron spectroscopy at the highest spatial resolution. The manuscripts include both a snapshot and a cross-section of the state-of-the-art in measurement techniques that make use of aberration corrected instrumentation and its application to challenging problems in condensed matter physics, as well as in materials science and the life sciences. They demonstrate the importance and relevance of Wolfgang Baumeister, Colin Humphreys, John Spence and Knut Urban's achievements over many decades. Their work has had a profound and lasting influence on numerous aspects of modern research in applied transmission electron microscopy, as well as on the careers of many other scientists.

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