



Editorial

Introduction to a special issue on Frontiers of Aberration Corrected Electron Microscopy in honour of Robert Sinclair and Nestor J. Zaluzec on the occasion of their 70th and 65th birthdays



This special issue of Ultramicroscopy is a Festschrift in honour of Robert Sinclair and Nestor J. Zaluzec on the occasion of their 70th and 65th birthdays, respectively, as well as a compilation of invited presentations given at PICO 2017 – the Fourth Conference on Frontiers of Aberration Corrected Electron Microscopy held in Kasteel Vaalsbroek, The Netherlands, from 30 April to 4 May 2017.

It contains original research and review articles, in particular those written by colleagues who have had the privilege of working together with Robert Sinclair and Nestor J. Zaluzec 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 2017 conference organised by the Ernst Ruska-Centrum in Forschungszentrum Jülich GmbH, Germany.

PICO 2017 attracted approximately 150 participants from academia, industry and national laboratories and received major sponsorship from FEI Electron Optics BV, Forschungszentrum Jülich GmbH, CEOS GmbH, JEOL (Germany) GmbH, DENSO Solutions BV, Hitachi High-Technologies Europe GmbH, NanoMEGAS SPRL and NION Company or their German representatives. The conference owes its success to meticulous organisational work carried out by Ingrid Rische-Radloff and Gabriele Waßenhoven, who deserve very special thanks.

This special issue begins with an overview written by Hamish Fraser, David J. Smith and Jim Wittig highlighting the careers and most important scientific achievements of Robert Sinclair and Nestor J. Zaluzec, both of whom have developed and applied the latest electron microscopy techniques to understand the properties of a wide range of materials, 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 Robert Sinclair and Nestor J. Zaluzec 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 and materials science. They demonstrate the importance and relevance of Robert Sinclair's and Nestor J. Zaluzec's achievements over many decades. Their work has had a profound and lasting influence on numerous aspects of modern research in applied electron microscopy and spectroscopy, as well as on the careers of many other scientists.

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