

ROLAND A. FLECK, PhD, FRCPath, FRMS, is a Professor of Ultrastructural Imaging and Director of the Centre for Ultrastructural Imaging at King's College London, United Kingdom. He is also a visiting Professor of the Faculty of Health and Medical Sciences, University of Copenhagen and Professor of the UNESCO Chair in Cryobiology, National Academy of Sciences of Ukraine, Institute for Problems of Cryobiology, Kharkiv, Ukraine. He joined King's College London in 2013 from the National Institute for Biological Standards and Control (NIBSC), where he was head of Biological Imaging and Assay Development. At NIBSC he developed advanced imaging techniques for the control and standardisation of biological medicines and had research interests in developing differentiation protocols for myeloid leukemic and human embryonic stem cell lines as substrates for functional biological assays. He has extensive specialist knowledge of freeze fracture/freeze etch preparation of tissues and wider cryo-microscopic techniques.

As academic director of the Centre for Ultrastructural Imaging he collaborates widely with colleagues in neuroscience and parasitology and promotes advanced three dimensional studies of cells and tissues using both room temperature and cryo electron microscopy techniques. He has extensive experience and knowledge of low temperature biology and cryopreservation having researched how cells and tissues both avoid and are damaged by chilling and freezing events. His current research interests focus on developing tools and protocols for enhancing the preservation of tissues for characterisation by electron microscopy as a capacity to enhance wider scientific collaborations.

Areas of expertise: Advanced electron microscopy techniques, cryo electron microscopy preparation techniques and electron tomography, application of serial block face and focused ion beam for the life sciences.