DESCRIPTION

Micron is an interdisciplinary forum for all work that involves new applications of microscopy or where advanced microscopy plays a central role. The journal will publish on the design, methods, application, practice or theory of microscopy and microanalysis, including reports on optical, electron-beam, X-ray microtomography, and scanning-probe systems. It also aims at the regular publication of review papers, short communications, as well as thematic issues on contemporary developments in microscopy and microanalysis. The journal embraces original research in which microscopy has contributed significantly to knowledge in biology, life science, nanoscience and nanotechnology, materials science and engineering.

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cryoTEM of biological macromolecules, tomography etc. My research focusses on the structure of viruses primarily using negative stain and cryo-transmission electron microscopy combined with three-dimensional image reconstruction. We are also interested in electron tomography of frozen hydrated preparations of viruses as well as resin-embedded virus infected cells. My focus from a virological perspective is in virus tropism and attachment and entry, replication complexes and virus morphogenesis. We are developing our interest in electron tomography of biologically relevant cell systems such as tissue explants and 3D (i.e. differentiated) cell cultures as well as correlative light and electron microscopy, although I could not be described as expert in these areas.
J. Billen, KU Leuven Department of Biology, Leuven, Belgium
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A. Holzenburg, University of Texas Health Rio Grande Valley, School of Medicine, Department of Molecular Science, Harlingen, Texas, United States
In the MIC, of which I am the Director, we are imaging anything from ants to atoms and from Alzheimer’s to zeolites. In between there is an emphasis on metals, geological materials, nano particles, nano fibers, shape memory alloys, hydrogels, thin films, semiconductors, superconductors and polymers/composite materials by means of bright field, dark field, ED, HOLZ, Kikuchi, STEM,
EELS, EDS, HRTEM and cryo. of My “personal” research speciality is in the field of 3D macromolecular structures using tomographic approaches

B. P. Jena, Wayne State University School of Medicine, Detroit, Michigan, United States

cell secretion, membrane fusion, porosome, fusion pore, membrane transport

A. Kirkland, University of Oxford Department of Materials, Oxford, United Kingdom

The development of quantitative phasing methods, applications of aberration corrected HRTEM for structural studies of nanomaterials, direct electron detectors and the development of computational image processing and theory for enhancing resolution in the TEM.

M. Lekka, Henryka Niewodniczanskiego Institute of Nuclear Physics, Krakow, Poland

Nanobiomechanics of tissue and cells in cancer; Nanomedicine; Adhesive interactions of cells with microenvironment; Biophysics of membrane-cytoskeleton interactions in cancer invasion; Microscopy (atomic force, fluorescence, electron) in biological applications

A. Kirkland, University of Oxford Department of Materials, Oxford, United Kingdom

The development of quantitative phasing methods, applications of aberration corrected HRTEM for structural studies of nanomaterials, direct electron detectors and the development of computational image processing and theory for enhancing resolution in the TEM.

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Nanobiomechanics of tissue and cells in cancer; Nanomedicine; Adhesive interactions of cells with microenvironment; Biophysics of membrane-cytoskeleton interactions in cancer invasion; Microscopy (atomic force, fluorescence, electron) in biological applications

J. Luocq, University of St Andrews School of Medicine, St. Andrews, United Kingdom

H. Luensdorf, Helmholtz Centre for Infection Research, Braunschweig, Germany

For many years I am mainly doing energy-filtered TEM in the biological and microbiological/environmental area, especially the ultrastructural analysis of autochthonous biofilms. Within this context I’m also constantly working with nanoparticles as long as they are suitable and/or of value for labeling and tracing of macromolecules of biological/immunological importance in our institutes research. Among others I also did and do over the years negative-staining analysis of macromolecules and 3D modeling by Single-Particle Averaging (EMAN program). In general, I have to do everyday TEM in our Helmholtz-Center of Infection Research on demand of my collaborators and divers non-institutional university partners. If there remain further questions do not hesitate to contact me.

Q. Luo, Huazhong University of Science and Technology, Wuhan, China

J. Reyes Gasga, UNAM Institute of Physics, Mexico D.F., Mexico

Electron diffraction and electron microscopy of materials (metals, ceramics and biomaterials).

J. A. Slater, Diamond Light Source, Didcot, United Kingdom

Electron Microscopy

D. J. Taatjes, University of Vermont, Burlington, Vermont, United States

Electron microscopy; Atomic force microscopy; Confocal microscopy; Super-resolution microscopy; Immunofluorescence

M. Varela del Arco, Complutense University of Madrid, Madrid, Spain

material physics; scanning transmission electron microscopy; electron energy-loss spectroscopy; magnetism; thin films; interfaces; complex oxides

J. Verbeeck, University of Antwerp, Wilrijk-Antwerp, Belgium

P. Verkade, University of Bristol, Bristol, United Kingdom

Correlative Light Electron Microscopy, Correlative Microscopy, Sample processing, Electron Microscopy, Probes

P. Xi, Peking University Department of Biomedical Engineering, Beijing, China

Optical nanoscopy, confocal and multiphoton microscopy, and biomedical optical instrumentation

Y. Zhu, Brookhaven National Laboratory, Upton, New York, United States

My research focus is on understanding the structure-property relationship of transition metal oxides, strongly correlated electron systems and multiferroics, and energy materials. My research experience includes the use of advanced electron microscopy, such as quantitative imaging, diffraction, spectroscopy, and holography, as well as synchrotron x-ray and neutron scattering to understand electronic structure and imhomogeneity and to study electrons, spins and lattice correlation

J.M. Zuo, University of Illinois at Urbana-Champaign, Champaign, Illinois, United States

Electron diffraction; High resolution electron microscopy; Nanostructure characterization; Crystallography
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