

## Erica Bithell

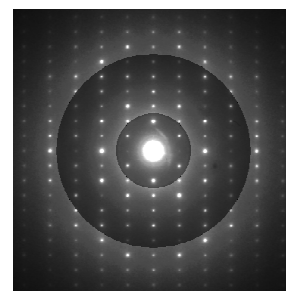
### Daphne Jackson Research Fellow

I am a member of the High Resolution Electron Microscopy Group in the Department of Materials Science and Metallurgy in the University of Cambridge, where I hold a Daphne Jackson Research Fellowship. I am also a Junior Research Fellow of Lucy Cavendish College.



My research interests are in the investigation of crystal structure, microstructure and composition of materials, using transmission electron microscopy and electron crystallography. During my Fellowship I am concentrating on developing methods for crystal structure determination in pharmaceutical compounds, and also in hybrid inorganic-organic framework structures. These latter materials are a new group of network-forming compounds in which metal ions act as nodes, bridged by organic ligands. They have a wide variety of potential applications from catalysis and gas storage, to uses which would exploit their optical, electronic and magnetic properties.

Scientific and technical progress happens only when we invest (in the widest sense) in the people who can make that happen, and I am grateful to the Daphne Jackson Trust for giving me the opportunity to demonstrate my own research skills after a career break of more than ten years. Flexible working arrangements and support for retraining are an intrinsic part of these Fellowships, and these have made it possible for me to return to a research environment. I am pleased to be part of a scheme which proves that a scientific training really does retain its value over time.



Precession electron diffraction pattern from aluminium carboxyethylphosphonate. By measuring the intensities of the different spots it is possible to derive information about the atom positions in the crystal structure from which it came.



Cambridge  
**AWiSE**

Association for Women in Science and Engineering