Metal-organic conductors special issue: editorial

When the Nobel Prize for Chemistry was awarded last year for seminal work on conducting polymers it served to highlight the field of molecular conductors in general. Among these, the enormous class of molecular charge transfer salts is especially noteworthy, not only for providing the first examples of superconductivity in organic solids but also many other quite unusual physical phenomena such as charge density waves, spin density waves, metal–insulator and spin–Peierls transitions. Indeed, it is no exaggeration to say that our knowledge of low-dimensional strongly correlated electron systems has been transformed by close study of their properties. Moreover, they have given chemists the opportunity to tune the properties through fine adjustments to the organic donor cations and inorganic anions, thus enabling structure–property relations to be teased out.

Whilst many charge transfer salts contain simple closed shell counterions, over the last few years it has proved possible to introduce transition metal ions into the lattices, thus enlarging considerably the range of properties to include d-electron magnetism. In this Special Issue we have therefore brought together a series of contributions concentrating on the theme of metal–organic solids. The metal atom may appear in the cation or anion of the charge transfer salt, but in either case it contributes significantly to the properties. Happily, apart from being a very active field of research in itself, the topic of metal–organic conductors is especially associated with the founding father of this Journal, Allan Underhill, who retired recently from his chair at the University of Wales at Bangor. To a considerable degree, therefore, the work described here is a tribute to him and his work in the area over many years. Quite a substantial number of the articles come from Japan, which is fitting in view of Allan Underhill's long and fruitful collaboration with groups there. Special thanks are due to Professor Akiko Kobayashi for contacting potential authors.

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