## **Author Profile**



A. Powell

The author presented on this page has recently published her 10th article since 2000 in Angewandte Chemie: "Coupling Dy, Triangles Enhances Their Slow Magnetic Relaxation": I. J. Hewitt, J. Tang, N. T. Madhu, C. E. Anson, Y. Lan, J. Luzon, M. Etienne, R. Sessoli, A. K. Powell, Angew. Chem. 2010, 122, 6496-6500; Angew. Chem. Int. Ed. 2010, 49, 6352 - 6356.

## Angewandte WILEY-VCH

A. Powell has been featured on the cover of Angewandte Chemie:

"A Ferromagnetically Coupled Mn<sub>19</sub> Aggregate with a Record S = 83/2 Ground Spin State": A. M. Ako, I. J. Hewitt, V. Mereacre, R. Clérac, W. Wernsdorfer, C. E. Anson, A. K. Powell, Angew. Chem. 2006, 118, 5048-5051; Angew. Chem. Int. Ed. 2006, 45, 4926-4929

## **Annie Powell**

Date of birth: October 20, 1959

Position: Professor of Chemistry at the Institute of Inorganic Chemistry and the Institute of Nano-

technology, Karlsruhe Institute of Technology (KIT, Germany)

E-mail address: annie.powell@kit.edu

Homepage: http://ak-powell.chemie.uni-karlsruhe.de/ 1981 BSc (Hons) University of Manchester (UK) **Education:** 

1981-1985 PhD with Dr. Michael (Mike) J. Ware, University of Manchester (UK) 1986-1988 Postdoc with Prof. Heinrich Vahrenkamp, Universität Freiburg (Germany)

1993 Ciba-Geigy Fellowship; 2004 Fellow of the Royal Society of Chemistry; 2010–2013 Julius Awards:

von Haast Fellowship

Current research Developing approaches to the production of materials by using coordination clusters as central interests: building blocks for functional nanostructured materials. Examples include systems with

cooperative properties such as nanomagnetic materials, luminescent systems, porous frameworks, as well as biomimetic chemistry applied to metalloproteins and biominerals. We have researched extensively into the use of 4f-electron metal ions as a means of producing exotic effects in cooperative materials. In addition, we explore the use of coordination-cluster-based compounds as precursors to a range of materials, including microporous solids and mineral species, which can be highly organized as a result of the symmetry imposed by the underlying

crystal structure of the coordination compound.

**Hobbies:** Expanding my horizons

My science "heroes" are ... my co-workers in my group.

The biggest problem that scientists face is ... to keep an open and prepared mind.

The part of my job which I enjoy the most is ... interacting with young people and helping them to appreciate all the amazing things that go on around us.

In my opinion, the word "scientist" means ... someone with a thirst for knowledge and a creative nature, but the good grace to realize their own limitations. Johann Wolfgang von Goethe put it very well when he said "Das schönste Glück des denkenden Menschen ist das Erforschliche erforscht zu haben und das Unerforschliche ruhig zu verehren".

The best advice I have ever been given is ... "to be yourself" (from my Mum).

My favorite food is ... Ali's (my husband's) Mutter Paneer—you have to try it!

## My 5 top papers:

- 1. "Synthesis, Structures and Magnetic properties of Fe<sub>2</sub>, Fe<sub>17</sub>, and Fe<sub>19</sub> Oxo-Bridged Iron Clusters: The Stabilization of High Ground State Spins by Cluster Aggregates": A. K. Powell, S. L. Heath, D. Gatteschi, L. Pardi, R. Sessoli, G. Spina, F. Del Giallo, F. Pieralli, J. Am. Chem. Soc. 1995, 117, 2491-2502. (We published the structures of these compounds in Angewandte Chemie in 1992, but the JACS paper was the first of our collaboration with Dante Gatteschi and Roberta Sessoli; we showed how these molecules produced in aqueous media displayed the highest molecular spin ground state ever seen.)
- 2. "Biomimetic assembly of calcite microtrumpets: crystal tectonics in action": S. B. Mukkamala, A. K. Powell, Chem. Commun. 2004, 918-919. (People always seem amazed by how a very simple polycarboxylate additive can result in the formation of these nanostructured microtrumpets of calcite.)
- 3. "A Ferromagnetically Coupled Mn<sub>19</sub> Aggregate with a Record S = 83/2 Ground Spin State": A. M. Ako, I. J. Hewitt, V. Mereacre, R. Clérac, W. Wernsdorfer, C. E. Anson, A. K. Powell, Angew. Chem. 2006, 118, 5048-5051; Angew. Chem. Int. Ed. 2006, 45, 4926-4929. (With this  $Mn_{19}$  compound we regained the "spin world

- record" in a collaborative effort with group members from Cameroon, Moldova, and the UK with help from our friends based in France, Rodolphe Clérac and Wolfgang Wernsdorfer.)
- "A Bell-Shaped Mn<sub>11</sub>Gd<sub>2</sub> Single-Molecule Magnet": V. Mereacre, A. M. Ako, R. Clérac, W. Wernsdorfer, G. Filoti, J. Bartolomé, C. E. Anson, A. K. Powell, J. Am. Chem. Soc. 2007, 129, 9248-9249. (This was the first result arising from the very fruitful collaboration between Valeriu (Mereacre) and (Ayuk Manase) Ako, where they pooled their complementary expertise to find a robust synthetic route to 3d/4f coordination clusters.)
- "Coupling Dy, Triangles Enhances their Slow Magnetic Relaxation": I. J. Hewitt, J. Tang, N. T. Madhu, C. E. Anson, Y. Lan, J. Luzon, M. Etienne, R. Sessoli, A. K. Powell, Angew. Chem. 2010, 122, 6496-6500; Angew. Chem. Int. Ed. 2010, 49, 6352-6356. (This latest result on manipulating a fascinating Dy3 triangular motif shows how small changes to a simple system can make it behave in a wholly new way; the paper is the pinnacle of the collaboration with Roberta (Sessoli) on Dy systems.)

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