## **Author Profile**



M. Hannon

The author presented on this page has recently published his 10th article since 2000 in Angewandte Chemie: "Noncovalent DNA-Binding Metallo-Supramolecular Cylinders Prevent DNA Transactions in vitro": C. Ducani, A. Leczkowska, N. J. Hodges, M. J. Hannon, Angew. Chem. 2010, 122, 9126–9129; Angew. Chem. Int. Ed. 2010, 49, 8942–8945.



The work of M. Hannon has been featured on the cover of Angewandte Chemie: "Molecular Recognition of a Three-Way DNA Junction by a Metallosupramolecular Helicate": A. Oleksi, A. G. Blanco, R. Boer, I. Usón, J. Aymamí, A. Rodger, M. J. Hannon, M. Coll, Angew. Chem. 2006, 118, 1249–1253; Angew. Chem. Int. Ed. 2006, 45, 1227–1231.

## Mike Hannon

**Date of birth:** March 1969

**Position:** Professor of Chemical Biology, University of Birmingham (UK)

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Education: 1987–1990 BA Natural Sciences (1st class), University of Cambridge (UK)

1990–1993 PhD in Chemistry with Professor Ed Constable, University of Cambridge 1993–1994 Royal Society European Science Exchange Programme Postdoctoral Fellow with

Professor Jean-Marie Lehn, Université Louis Pasteur, Strasbourg (France)

Awards: 2002 The Bob Hay Lectureship (Royal Society of Chemistry); 2004 Sir Edward Frankland

Fellowship (Royal Society of Chemistry)

Current research My research lies at the interface between chemistry and the life sciences and is focused on metal

complexes in biology and medicine as both imaging agents and therapeutics. We combine

expertise in synthetic chemistry and biophysical biomolecular recognition studies with studies of activity, efficacy, and mechanism of action in living biological systems. We use supramolecular chemistry to recognize unusual DNA structures; our largest area of activity currently lies in using supramolecular cylinders to recognize DNA replication forks and, through this, to stop cancerous cells from replicating. Other activities include metallo drug delivery and targeting

and design of metallo imaging agents.

**Hobbies:** Listening to music, playing with the kids, and being frustrated by my football team (Everton)

## The three things I would take to a desert island ... would be a bed, a hunter, and a chef.

My favorite author (fiction) is ... Penelope Fitzgerald, who is a superb wordsmith.

I won the lottery ... I would install a fully automated laboratory so my students and I could sit on a sunny Greek island directing the experiments remotely!

My most exciting discovery to date has been ... the three-way junction recognition by a supramolecular cylinder.

A good work day begins with ... the email server being down so I can work uninterrupted!

My favorite bands are ... Yazoo and Little Boots.

My worst habit is ... hassling my students for the result straight after I have suggested the experiment.

## My 5 top papers:

interests:

- "An inexpensive approach to supramolecular architecture": M. J. Hannon, C. L. Painting, A. Jackson, J. Hamblin, W. Errington, *Chem. Commun.* 1997, 1807 1808. (Nanoscale supramolecular architectures are accessed very quickly from commercial agents for the first time.)
- "Intramolecular DNA Coiling Mediated by a Metallo-Supramolecular Cylinder": M. J. Hannon, V. Moreno, M. J. Prieto, E. Molderheim, E. Sletten, I. Meistermann, C. J. Isaac, K. J. Sanders, A. Rodger, *Angew. Chem.* 2001, 113, 903–908; *Angew. Chem. Int. Ed.* 2001, 40, 879–884. (The principle of using supramolecular design to create DNA-binding motifs that are the same size as protein DNA-binding units is established.)
- "Molecular Recognition of a Three-Way DNA Junction by a Metallosupramolecular Helicate": A. Oleksi, A. G. Blanco, R. Boer, I. Usón, J. Aymamí, A. Rodger, M. J. Hannon, M. Coll, Angew. Chem. 2006, 118, 1249–1253; Angew. Chem. Int. Ed. 2006, 45, 1227–1231. (A quite remarkable structure that transforms the way we think about recognizing DNA is introduced and

- enables DNA structure selectivity as a design approach.)
- 4. "Dinuclear Ruthenium(II) Triple-Stranded Helicates: Luminiscent Supramolecular Cylinders That Bind and Coil DNA and Exhibit Activity against Cancer Cell Lines": G. I. Pascu, A. C. G. Hotze, C. Sanchez Cano, B. M. Kariuki, M. J. Hannon, Angew. Chem. 2007, 119, 4452–4456; Angew. Chem. Int. Ed. 2007, 46, 4374– 4378. (This paper introduced fluorescence and the potential for DNA photocleavage into the cylinder design.)
- 5. "Supramolecular Iron Cylinder with Unprecedented DNA Binding Is a Potent Cytostatic and Apoptotic Agent without Exhibiting Genotoxicity": A. C. G. Hotze, N. J. Hodges, R. E. Hayden, C. Sanchez-Cano, C. Paines, N. Male, M.-K. Tse, C. M. Bunce, J. K. Chipman, M. J. Hannon, Chemistry & Biology 2008, 15, 1258–1267. (The noncovalent binding to DNA fork structures can be used to gain anticancer activity without the DNA damage associated with conventional clinical DNA-binding drugs like cisplatin.)

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