



**Current Position:** Lecturer in Molecular Biology in the School of Biological and Chemical Sciences at Queen Mary, University of London in the United Kingdom

**Education:** Ph.D. in Molecular Biology (1996) from the University of Sheffield; B.Sc. (Hons) in Biochemistry (1992) from the University of Sheffield

**Non-scientific Interests:** Painting, modern art

I have long-standing interests in the mechanistic aspects of epigenetic systems. During my Ph.D. program with Professor David Hornby at the University of Sheffield, I characterized the mechanism of inhibition of DNA methyltransferases by a novel nucleotide analogue, 2-H pyrimidinone. Afterward, I began a postdoc with Dr. Kevin Ford at Kings College Medical School in London working on targeting DNA methylation to specific endogenous mammalian promoters in order to silence gene transcription. During the course of this project, I developed a keen interest in mechanisms regulating mammalian transcriptional control and, in particular, in the epigenetic phenomena underlying this regulation.

Consequently, I decided to move to the University of Cambridge to work with Professor Tony Kouzarides at the Gurdon Institute because his lab is at the forefront of epigenetic research. Initially, I focused on the mechanisms by which DNA methylation is coupled to alterations in chromatin structure through the post-translational modification of histones. During this time it became increasingly evident that the post-translational modification of histones plays a central role in establishing, regulating and orchestrating DNA based processes. Moreover, the sheer variety and complexity of histone modifications, in addition to their dynamic nature, persuaded me to begin characterising novel histone modifications in the hope of elucidating biological function. One such modification is the phosphorylation of histone H3 at Thr-45. Previously undescribed, we were able to establish a role for this modification in cellular apoptosis in primary human cells. Furthermore, we identified the kinase responsible for this modification as the pro-apoptotic Protein Kinase C delta.

I am currently establishing my own group at Queen Mary, University of London in the United Kingdom.

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**Read Dr. Hurd's article entitled:** Phosphorylation of Histone H3 Thr-45 Is Linked to Apoptosis

<http://www.jbc.org/cgi/content/full/284/24/16575>