

WITSIE AT THE CUTTING EDGE: Researcher Profile

Professor David Gray

**Head of School
School of Physiology**



Who are you and what is your academic/scientific training and background?

I am a “Geordie” as I was born in Newcastle upon Tyne in the North-East of England, the land of brown ale; football and ballet (remember Billy Elliott). I was educated (BSc and MSc) in England prior to taking up my first job as a research scientist in the Division of Endocrine Physiology and Pharmacology at the National Institute for Medical Research (NIMR), Mill Hill, London. In 1981 I moved to Germany to work at one of the Max-Planck Institutes at the W.G. Kerckhoff Institute for Clinical Research located in Bad Nauheim, just north of Frankfurt. During the period 1986 and 1987 I was awarded an overseas scholarship by the Max-Planck Society and completed my PhD at the University of Port Elizabeth, South Africa. In 1992 I left Germany to return to South Africa, spending two years at Rhodes University in Grahamstown, before joining the Department of General Physiology, which in 1996 merged with the Department of Physiology at Medical School and ultimately became the School of Physiology. In 2006 and again in 2011 I was appointed as the Head of the School of Physiology.

Explain the nature of the work that you are currently undertaking?

I am a comparative physiologist, with a focus on avian physiology. I have spent more than 20 years investigating the endocrine control of osmoregulation in birds. Round about 1998 I moved into the area of avian temperature regulation, specifically the physiology of mediation and modulation of fever in birds.

What do you think is the most pertinent/relevant/significant contribution you have made to research/science/your field?

I would like to think that my research work has made a meaningful contribution to understanding aspects of regulatory physiology not only to birds but in animals in general. I believe that there is much to be learnt from comparative physiology and that by understanding the phylogeny of non-mammalian physiological systems our understanding of mammalian systems increases. As with most researchers, very little would have been achieved by me alone and so much of the contribution has involved collaborators such as Rudi Gerstberger, Shane Maloney and Manette Marais as well as those mentioned below.

Did you have a particular mentor or supervisor who inspired you in research?

I have been privileged to work with some of the best researchers in the world. At the NIMR in London I worked with John Parsons, a giant in the field of parathyroid hormone physiology and pharmacology. In Germany I worked with Eckhart Simon and Ted Hammel (from USA), international leaders in their field and here at Wits, Duncan Mitchell continues to be an inspiration.

Tell us about what you do when you are not busy at work and carrying out cutting edge research?

I remain committed to two of the three activities mentioned above that Geordies are known for. The one I'm not so good at is ballet.

[Read one of Dave's papers:](#) Gray, DA, Marais M & Maloney SK. A review of the physiology of fever in birds (2013). Journal of Comparative Physiology B, 183: 297 – 312.