

Dr Brenda Howard MBE

Radioecologist with the Centre for Ecology & Hydrology, Lancaster

Moving up from snails to sheep led Brenda to a long and distinguished career as an expert in radionuclide contamination, including advising governments how to deal with the aftermath of the Chernobyl and Fukushima disasters.

At school my most inspiring teacher taught biology, so that was the subject I was drawn to. I went on to study biology at York University where, as well as acquiring my degree, I also gained a husband.

Following graduation, I undertook a PhD at Reading, studying heavy metal detoxification and physiology in snails. After this, I moved onto somewhat larger animals, sheep, as my career took me to my first role within NERC, at the CEH (then ITE) based in Merlewood, Cumbria. I studied the transfer of radionuclides from saltmarshes contaminated by releases from the Sellafield Reprocessing Plant – experience which would prove invaluable after the Chernobyl accident in 1986.

I spent 20 years in Chernobyl-related studies and travelled extensively during this period, including visits to the exclusion zone. My work (with scientists from Russia, Ukraine and Belarus as well as EC states) at this time was focused on how the radionuclides released from the reactor were moving into milk and meat. I also studied how to prevent contamination of animal products to reduce the radiation doses and risk to humans.

Much of my work since the early 1990s was in leading and participating in multi-disciplinary teams which has taken me to many different contaminated sites. I have visited nuclear test sites in Kazakhstan and the USA and been involved in assessment studies in the Arctic.

In the last decade, there has been a shift in radioecology towards studying the effects of radionuclides on the environment and I have worked on the estimation of radiation doses to organisms, the associated risk and its potential regulation. I have led and contributed to a series of international UN initiatives, writing for a number of publications of the International Atomic Energy Agency (IAEA). I am also actively involved in international committees and working groups involving different scientists from the IAEA member states.

Following the Fukushima accident, I provided independent advice and support to Japanese colleagues and Ministries to assist the mitigation of the effects on the environment.

As well as the scientific challenges, I greatly enjoy the diversity that my career brings and. I am fortunate to work with a range of talented people from across the world. I have two daughters and in juggling a career with family commitments, I have been fortunate to have the help of a flexible husband and supportive parents.

The main advantage of the IMP for me is that the funds have allowed me to devote resources and time to a wide range of high profile and high impact IAEA activities which would not otherwise have been possible. I get to meet and talk to many of the leading scientists in my field all over the world, and keep abreast of current and potential future trends in my subject area and related disciplines.

