

Dr Andy Ball



**Professor of Environmental Biotechnology
School of Biological Sciences
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Research Interests

- **bioremediation of contaminated land and water**
- **the role of micro organisms in soil fertility and sustainable agriculture**

Qualifications

PhD, Department of Microbiology, University of Liverpool, UK.

Research

Andy's research is focused on the response, in terms of activity and diversity of the microbial community to environmental perturbations.

One of his major interests is the bioremediation of contaminated land and water, using both laboratory and field based research to examine the potential role of microbial communities in the treatment of waste oils and also in the factors limiting the breakdown (natural attenuation) of contaminants in contaminated sites.

Another main research interest focuses on the role of micro organisms in soil fertility and sustainable agriculture both in temperate and tropical soils. This involves the sampling and analysis of soils from Africa, North and South America, Europe, Australasia with the ultimate aim of developing a set of indicators for soil health. As part of this work his research group is examining the cooperative activity of enzymes secreted by micro-organisms during soil organic matter formation in soils. Among the enzymes characterised are xylanases, cellulases and lignin peroxidases.

Specific ongoing research projects include:

- Fate of pathogens during the composting of waste organic materials
- Natural attenuation of contaminated soil and groundwater
- Detection and identification of sources of faecal pollution in aquatic environments
- Influence of agricultural management on soil microbial diversity and activity
- Biological desulphurisation of fossil fuels
- Assessing the potential of agricultural systems for carbon sequestration

Affiliations

Associate Editor-International Journal of Agricultural Sustainability (2002-)

UK Co-ordinator, International Humic Substances Society (2000-2005)

Director, Centre for Environment, Science & Society, University of Essex (2004-2005)

- Conducting multidisciplinary collaborative research on Australia's biodiversity & landscapes
- Providing innovative interpretation of biodiversity research for a wide variety of end-users