

Professor Malcolm Press

Pro-Vice-Chancellor for Research and Knowledge Transfer

Life and Environmental Sciences

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Biography

- BSc University of London (1980); PhD University of Manchester (1984)
- Postdoctoral Research Associate, University College London (1985-1989)
- Lecturer and Senior Lecturer, University of Manchester (1989-94)
- Senior Lecturer and Reader, University of Sheffield (1994-1998)
- Professor of Physiological Ecology, University of Sheffield (1998-2008)
- Pro-Vice-Chancellor and Head of the College of Life and Environmental Sciences, University of Birmingham (2008-2013)
- Pro-Vice-Chancellor for Research and Knowledge Transfer, University of Birmingham (2013-present)

Research

Research Theme within School of Biosciences: Organisms and Environment

Short research description: **Physiological plant ecology**

Key Research Interests:

I am an ecologist with interests in the interactions between plants and their environment (physical and biological). For my three areas of research, specific examples are listed below.

Global environmental change

- Impacts of atmospheric nitrogen deposition on upland vegetation: first demonstration of the impact of pollutant N on a British natural ecosystem (blanket bog) and the mechanism of action.
- Impacts of climate change on arctic ecosystems: community changes to temperature and nutrients are mediated through the response of a small number of key species already present in the community with no invasion of new species.

Parasitic plant-host interactions

- Interactions between parasitic witchweeds (*Striga* species) and their hosts: quantification of host-parasite carbon budget and identification of host resistance mechanisms.
- Impacts of parasitic plants on ecosystem structure and function: hemiparasites shape community structure through acceleration of decomposition and nutrient (nitrogen) cycling.

Tropical ecology

- Regeneration of rain forest tree seedlings (dipterocarps): growth enhancement under elevated CO₂ is greater under sunflecks and thus may alter the trade off between growth in the sun and survival in the shade for dipterocarp seedlings.

Other activities

- Past President, British Ecological Society (2007-2009)
- Member, National Trust Council (2009-2012)
- Deputy Chair, Biological Sciences REF Panel

Publications

Bagchi R, **Press MC** & Scholes JD (2010) Evolutionary history and distance dependence control survival of dipterocarp seedlings. *Ecology Letters* 13: 51-59.

Fletcher BJ, **Press MC**, Baxter R & Phoenix GK (2010) Transition zones between vegetation patches in a heterogeneous Arctic landscape. *Oecologia* 163: 47-56.

Swarbrick PJ, Huang K, Liu G, Slate J, **Press MC** & Scholes JD (2008) Global patterns of gene expression in rice cultivars undergoing a susceptible or resistant interaction with the parasitic plant *Striga hermonthica*. *New Phytologist* 179: 515-529.

Massey FP, Massey K, **Press MC** & Hartley SE (2006) Neighbourhood composition determines growth, architecture and herbivory in tropical rain forest tree seedlings. *Journal of Ecology* 94: 646-655.

Press MC and Phoenix GK (2005) Impacts of parasitic plants in natural communities. *New Phytologist*: 737-751.

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