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Professor Malcolm Press

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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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