



# The impact of manipulating stomatal conductance

Wednesday 9 April 1 – 2pm

## Speaker

**Julie Gray**

University of Sheffield, UK

## Location

**Slatyer Seminar Room**

R.N. Robertson Building (Bldg. 46),  
Linnaeus Way, ANU

## Contact

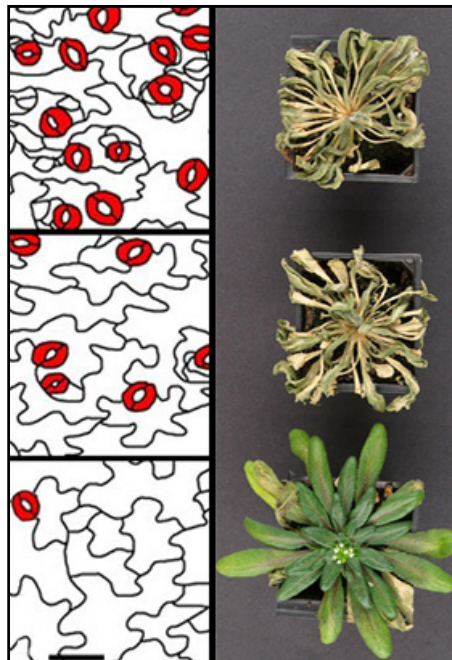
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This lecture is free and open to the public

PSS event information:

[biology.anu.edu.au/News/events-ps.php](http://biology.anu.edu.au/News/events-ps.php)



Over the past decade the signalling pathway that controls the formation of stomata has become much better understood. This knowledge has allowed us to begin to study the physiological implications of altering stomatal density within plants with the same genetic background. Manipulating the level of expression of peptide signals known as epidermal patterning factors has produced *Arabidopsis thaliana* plants which have stomatal densities ranging from approximately 20% to 325% of normal levels, and has shown that plants with reduced stomatal density have reduced levels of transpiration, and are able to grow larger, especially under conditions of water restriction. Together these

findings suggest that plants with reduced stomatal density might be better able to survive drought conditions. In this talk I will focus on mutants of epidermal patterning factors EPF1 and EPF2 which suppress inappropriate stomatal development, and STOMAGEN/EPFL9 which promotes stomatal development. Using these resources I will discuss the impact of manipulating stomatal conductance on stomatal size, drought tolerance, root architecture and phosphate capture.

## Career History

2008 - present: Professor of Plant Cell Signalling, Department of Molecular Biology and Biotechnology, University of Sheffield

1993 - 2007: Lecturer/ Senior Lecturer/Reader Dept. of Molecular Biology and Biotechnology, University of Sheffield

1990 - 1993: University Research Fellow, University of Nottingham

1989 – 1990: Research Fellow, Macquarie University & University of Melbourne

1985 - 1989: PhD Student, University of Nottingham

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