

Public Lecture by Dr Christine Foyer

Thursday, 9 February 2017 @ 5.00pm
Bayliss Lecture Theatre G:33, UWA



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Setting the rhythm for cell division in plants

Plant performance and the predictability of crop yields are severely hampered by environmental limitations and constraints. This is because crop plants have evolved to grow well only under a certain range of climatic conditions, and they stop growing, for example at low or high temperatures, and so yield is reduced.

Unlike animals, plants grow continuously and growth requires new cells to provide the building blocks. When plants perceive stress, specific signals block cell division and proliferation.

Under extreme conditions, this is beneficial, but evidence suggests that plants shut down cell division early as a precaution in response to stress. Therefore they stop growing, even though conditions are not really bad enough to require this.

How does abiotic stress stop cell division? An important factor is the ability of the cell to regulate its energy producing reduction and oxidation (redox) reactions and the associated signalling processes that control multiple facets of plant cell

biology from protein function and gene expression. The cells reducing power is stored as pools of reductant and anti-oxidant compounds that protect against uncontrolled oxidation.

This talk will discuss how redox reactions can be used in proliferative signalling to stimulate cell division and also in environmental stress surveillance systems that arrest progress through the cell division cycle.

About Dr Foyer

Christine Helen Foyer is Professor of Plant Sciences and Research Director of the School of Biology at the University of Leeds, UK. She is also a Winthrop Professor at UWA, and a Pao Yu-Kong Chair Professor of Zhejiang University, Hangzhou, China.

Christine received her PhD from Kings College, London, UK and she has held senior posts at the Institut Nationale Recherché Agronomique (France), Rothamsted Research (UK), the Institute of Grassland and Environmental Research (UK) and the University of Newcastle upon Tyne (UK).

Christine has over 500 published papers. She is an expert in plant metabolism and its regulation under optimal and stress conditions.

Her research interests concern stress (drought, chilling, high light, aphid infestation) effects on plants, focussing on how primary processes (photosynthesis respiration) alter the reduction/oxidation (redox) status of the cell and associated signalling.

Event Details:

Date: Thursday, 9 February 2017

Time: 5.00pm - 6.00pm

Venue: Bayliss Lecture Theatre G:33
The University of WA
Crawley 6009

Register: ioa.uwa.edu.au/events/register

Parking: Short term pay parking
available at Fairway, Myers St,
Parkway and Hackett Drive

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