

International Center for Scientific Debate BARCELONA

Curriculum Vitae



Karen Halliday

Karen Halliday is a reader at Edinburgh University, with expertise in environmental signal integration, molecular genetics and dynamical mathematical modelling in the model plant Arabidopsis. Career highlights include the characterisation of nuclear localised, PIF3, the first known interacting partner for the light receptor phytochrome. These findings contributed to a sizeable shift our understanding of light signal transduction which was previously thought to be triggered in the cytosol. For this and follow-on work Karen was awarded a Research Fellowship by Bristol University in 2003. Karen was the first to demonstrate that phytochrome signalling was temperature-dependent. She has identified PIFs and PIF-like genes as central integrators of light and temperature signals. This mechanism enables light to buffer the otherwise deleterious effect of warm temperature on plant biomass and viability. A collaborative project with Graham (York) has identified a molecular motif that ensures molecular responses and growth-control are maintained through wide fluctuations in light quality. Current interests include the application of Systems Biology approaches to elucidate the impact of temperature change on plant molecular signalling, physiology and development. As the Earth surface temperature is predicted to rise, the challenge is to identify protective molecular mechanisms that prevent signalling functions from breaking down as temperature increases. Karen directs ROBuST, a large interdisciplinary combining experimentation, computational modelling and mathematical methodologies to address this problem.

Speaker at:

INTERPLAY OF LIGHT, PHOTOPERIODISM AND CIRCADIAN CLOCK FUNCTION IN PLANT DEVELOPMENT

May, 4th-6th, 2011, Barcelona

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