

How are peroxisomes attached to the ER in plants?

Supervisory team:

Main supervisor: Dr Imogen Sparkes (University of Bristol)

Second supervisor: Prof Michael Schrader (University of Exeter)

Dr Tom Williams (University of Bristol)

Collaborators: Prof Stanley Botchway (Central Laser Facility, STFC), Prof Mark Fricker (University of Oxford), Dr Andy Ward (Central Laser Facility, STFC), Prof Peter Ashwin (University of Exeter)

Host institution: University of Bristol

Project description:

Peroxisomes play diverse roles in plant development from germination to senescence. Organelles contain a specific microenvironment to enable specific functions to occur. Organelles 'communicate' through physical interactions with one another at membrane contact sites. Here, we will dissect the components required for interaction between the ER and peroxisomes, which we will use to assess the functional role of the interaction. This will enable the student to answer questions relating to how and why do peroxisomes interact with the ER in plants?

The project will provide training in plant imaging, cell biology, molecular biology, bioinformatics, plant physiology. Imaging techniques will likely include confocal microscopy and optical tweezers. The supervisory team consists of Dr Imogen Sparkes (main supervisor), Dr Tom Williams (second local supervisor) at the University of Bristol, and Prof Michael Schrader (second supervisor) at the University of Exeter.

The project will be based at the University of Bristol within the plant group, which comprises multiple groups working on diverse topics ranging from cereal genomics to how plants respond to external stimuli (<http://www.bristol.ac.uk/biology/research/plant/>). For further enquiries please contact Imogen Sparkes (i.sparkes@bristol.ac.uk). Experience in plant biology is not essential although may be advantageous. To apply, please check your eligibility and follow the instructions for the SwBioDTP application process.

Our aim as the SWBio DTP is to support students from a range of backgrounds and circumstances. Where needed, we will work with you to take into consideration reasonable project adaptations (for example to support caring responsibilities, disabilities, other significant personal circumstances) as well as flexible working and part-time study requests, to enable greater access to a PhD. All our supervisors support us with this aim, so please feel comfortable in discussing further with the listed PhD project supervisor to see what is feasible.