



COLLOQUIUM SEMINAR SERIES

CHARACTERIZING CONTROL OF PLANT METABOLISM WITH STABLE ISOTOPES



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Stable isotopes are indispensable tools in the study of plant metabolism. I will present an overview on the use of ^{13}C to study metabolic flux in plants followed by two specific examples: photosynthetic carbon assimilation in the model plant *Arabidopsis* and elucidation of monoterpene biosynthesis in rose-scented geraniums. Using a combination of untargeted metabolomics and whole plant labeling techniques, we have identified the role of plant stress hormones in controlling photorespiration, a moonlighting function of RUBISCO in chloroplast terpenoid biosynthesis, and the unusual subcellular compartmentation of geranium essential oil biosynthesis. During this talk, I will highlight the centrality of mass spectrometry as a fundamental technique in plant biochemistry.

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featuring

Prof. Michael Phillips

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Location: CCT2150