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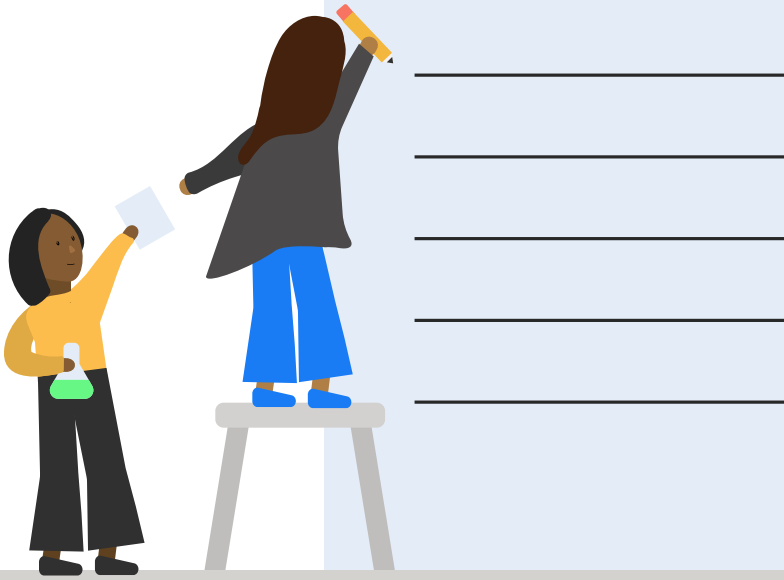

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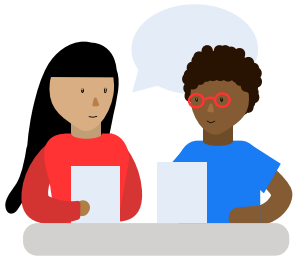

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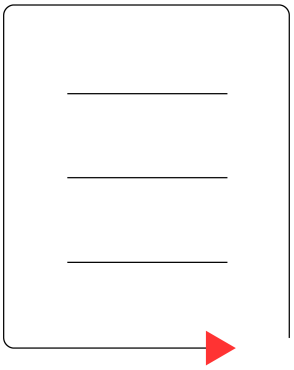

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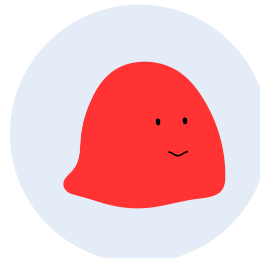

Daniela Saderi

ORCID iD: 0000-0002-6109-0367

Member since May 2019

Research profile

Current position	Visiting Scholar at Oregon Health & Science University
Research field	Neuroscience
Number of PREreviews	3
Number of solicited PREreviews	1
Community appreciation	

PREreviews

PREreview on: Subdivision of light signalling networks contributes to cellular partioning of C4 photosynthesis in maize

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PREreview on: Subdivision of light signalling networks contributes to cellular partioning of C4 photosynthesis in maize

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Member since May 2019

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Current position

Research field

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YES | NO

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YES | NO

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Subdivision of light signalling networks contributes to cellular partioning of C4 photosynthesis in maize

Ross-W Henderson, Steven Kelly

Preprint published 7th December, 2018. First reviewed on 18 Jan, 2019

3 PREreviews Write a PREreview Solicit a PREreview

arXiv: PHYSICS

Subdivision of light signalling networks contributes to cellular partioning of C4 photosynthesis in lorem ipsum tolor dortor

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2 PREreviews Write a PREreview Solicit a PREreview

Title
Subdivision of light signalling networks contributes to cellular partitioning of C_4 photosynthesis in maize.

Authors
Ross-W. Hendron and Steven Kelly

Affiliations
Department of Plant Sciences, University of Oxford, South Parks Road, Oxford, OX1 3RB, UK

Corresponding Author
Email: steven.kelly@plants.ox.ac.uk; Telephone: +44 (0)1865 275123

Abstract
Plants coordinate the expression of genes required to conduct photosynthesis in response to growth and environmental changes. In species that conduct two-cell C_4 photosynthesis, the expression of photosynthesis genes is partitioned such that leaf mesophyll and vascular sheath cells accumulate different components of the photosynthetic pathway. The identity of the regulatory networks that facilitate this partitioning are unknown. Here we show that differences in light perception between mesophyll and bundle sheath cells facilitate differential regulation and accumulation of photosynthesis genes in the C_4 crop *Zea mays* (maize). We show that transcripts encoding photoreceptors differentially accumulate in mesophyll and bundle sheath cells in a manner that is consistent with biophysical light filtration. We further show the blue light (but not red) is necessary and sufficient to activate photosystem II assembly in etiolated maize mesophyll cells, while both red and blue produce the same effect in C_3 *Hordeum vulgare* (barley). Finally, we

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Subdivision of light signalling networks contributes to cellular partioning of C4 photosynthesis in maize

Ross-W Henderson, Steven Kelly

Review this preprint

3 PREreviews

David Wilson

THURSDAY JANUARY 17 2019

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24 3 COMMENTS See more

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Key questions

- What is the main question the study attempts to answer?
- What are the hypotheses?
- What techniques do the researchers adopt to test their hypotheses?
- Why is this study relevant?

Your perspective

- General comments you might have about the research approach.
- Specific comment you might have about experimental approaches and methods used in the study.
- Specific comment/note about figures in the paper (this could be related to the way data are displayed and your ability to understand the results just by looking at the figures).
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