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Call for Papers

2017 Focus Issue on Stomata

Edited by Keiko Torii, Timothy J. Brodribb, and Mike Blatt
Deadline for submission extended to February 6, 2017.
To submit an article, go to <http://pphys.msubmit.net>

Image by: Haruko Hirukawa

Plant Physiology announces a special Focus Issue on Stomata, edited by Keiko Torii, Timothy J. Brodribb, and Mike Blatt, to be published in June 2017. This issue will cover all aspects of stomatal biology, from the evolution and development of stomata, through their molecular and cellular characteristics, to their modeling and function in the environment. Submissions of original research that addresses any of these topics are welcome.

Stomata are pores that provide the major route for gaseous exchange across the impermeable cuticle of leaves and stems. The stomatal pore is surrounded by pairs of guard cells that regulate the aperture, balancing the often conflicting demands for CO₂ and water conservation. Guard cells expand and contract to open and close the pore, driven by the uptake and loss of inorganic salts and by the synthesis and metabolism of organic solutes. Guard cells have also become one of the best known plant cell models today for determination of cell identity, membrane transport, signal transduction, and cellular homeostasis, knowledge that has benefited hugely from advances in molecular genetics, imaging, and single-cell technologies. Stomata also exert a major control on the water and carbon cycles of the world, and guard cells are thus an important target for genetic manipulation of water use by plants. Indeed, it may be argued that stomata are at the center of a crisis in water availability that is expected to unfold over the next 20 to 30 years as global water use rises, driven mainly by agriculture.

Authors interested in contributing should indicate this in the cover letter when submitting papers online at <http://pphys.msubmit.net/>. Please select “Stomata” (STO) from the Focus Issue list in the online submission system. Articles published in *Plant Physiology* on this topic within 2 years before and after the Focus Issue publication date will be collected in an online Focus Collection on Stomata.

Please contact Keiko Torii (ktorii@u.washington.edu), Tim Brodribb (timothyb@utas.edu.au), or Mike Blatt (eic-plantphys@glasgow.ac.uk) for more information.