Postdoctoral positions to study regulation of stomatal aperture.

We invite applications from candidate postdoctoral researchers to study how SAUR (Small Auxin Up RNA) proteins regulate stomatal aperture in Arabidopsis.

Regulated movement of solutes and water across the plasma membrane and the tonoplast affects the turgor of guard cells that flank each stomatal pore, and determines the degree of stomatal opening and hence transpiration and gas exchange rates. We have found that SAUR (Small Auxin Up RNA) proteins can promote stomatal opening, in part by regulating PP2C.D phosphatases that target membrane transporters. The project will use a combination of genetics, biochemistry, cell biology, electrophysiology, and computational modeling approaches to determine mechanisms by which SAUR and PP2C.D proteins regulate stomatal aperture, whether different members of these families have different activities, and at what times and under what physiological conditions they act. This is an unexplored aspect of guard cell physiology that may open up important new directions.

The project is a collaboration among labs at the University of North Carolina at Chapel Hill, U.S.A. (Jason Reed, Punita Nagpal), the University of Minnesota-Twin Cities, U.S.A. (William Gray), and the University of Glasgow, U.K. (Michael Blatt). Individuals will work primarily at one of the sites, with collaborative visits to the other project locations. To apply, please email i) your curriculum vitae, ii) names of references, iii) a brief summary of your prior research accomplishments, and iv) a discussion of what aspects of this project interest you, and what you would bring to it. Applicants interested in genetic, biochemical and cell biological analyses should contact Jason Reed (jreed@email.unc.edu) or William Gray (grayx051@umn.edu). Applicants interested in electrophysiology and modeling approaches should contact Michael Blatt (michael.blatt@glasgow.ac.uk; see http://www.psrg.org.uk for additional information about the Glasgow lab), and will be required to apply through the University of Glasgow jobs website at http://www.gla.ac.uk/about/jobs/ under post 014224 prior to 5th September 2016 and by direct application to Mike Blatt thereafter until the post is filled.

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