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### **Research interest**

Molecular Stress Physiology, ABA and abiotic stress signaling in basal land plants.

### **Recent Publications**

Takezawa D., Watanabe N., **Ghosh T. K.**, Saruhashi M., Suzuki A., Ishiyama K., Somemiya S., Kobayashi M. and Sakata Y. 2014. Epoxy-carotenoid-mediated Synthesis of Abscisic acid in *Physcomitrella patens* Implicating Conserved Mechanisms for acclimation to hyperosmosis in Embryophytes. **New Phytologist**. 206: 209-219.

Saruhashi M, **Ghosh TK**, Arai K, Ishizaki Y, Hagiwara K, Komatsu K, Shiwa Y, Izumikawa K, Yoshikawa H, Umezawa T, Sakata Y, Takezawa D. 2015. Plant Raf-like kinase integrates abscisic acid and hyperosmotic stress signaling upstream of SNF1-related protein kinase2. **PNAS**. 17;112(46):E6388-96. doi: 10.1073/pnas.

**Ghosh TK**, Kaneko M, Akter K, Murai S, Komatsu K, Ishizaki K, Yamato KT, Kohchi T, Takezawa D. 2015. Abscisic acid-induced gene expression in the liverwort *Marchantia polymorpha* is mediated by evolutionarily conserved promoter elements. **Physiol Plant**. doi: 10.1111/ppl.12385.

### **Conference presentation**

1. Ghosh TK and Takezawa D. Desiccation stress signaling in liverworts mediated by conserved promoter elements (**May, 2015, JSCC, Tokyo, Japan**).
2. Ghosh TK, Murai S, Kato K, Ishizaki K, Kohchi T, Sakata Y and Takezawa D. Both positive and negative regulatory mechanisms of ABA signaling are crucial for growth and stress responses in liverworts (**March, 2015, JSPP, Tokyo, Japan**).
3. Ghosh TK, Takezawa D and Arai K. Functional analysis of Marchantia polymorpha gene explore the conserved positive ABA signaling in liverworts Marchantia Workshop 2014 (**December 2014, Kobe, Japan**).
4. Ghosh TK, Takezawa D, Watanabe N, Saruhashi M, Suzuki A, Ishiyama K, Somemiya S, Kobayashi M and Sakata Y. Analysis of ABA deficient mutant of *Physcomitrella patens* reveals the conserved mechanisms for hyperosmotic acclimation in embryophytes. **MOSS2014 (September 2014, Beijing, China)**.
5. Takezawa D, Saruhashi M, Ghosh TK and Sakata Y. Characterization of UV-induced mutant lines of *Physcomitrella patens* with reduced sensitivity to cold and abscisic acid. **MOSS2014 (September 2014, Beijing, China)**.