



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY
Division of Life Science

LIFS Seminar Series

**Probing cell differentiation and plasticity
through the development of stomata**

by

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Abstract:

Stomata are epidermal pores critical for water and gas exchange in plants. Making and patterning the stomatal guard cells require processes fundamental to cell and developmental biology, such as specifying and maintaining cell fate, creating cell polarity, and controlling stem cell activity in response to the environment. In my talk, I will first discuss our work on how terminal differentiation of guard cells is maintained. We found an unexpected recruitment of the plant Retinoblastoma by the transcription factor responsible for guard cell differentiation in enforcing fate commitment, shedding light on the regulation of terminal differentiation in a plant stem-cell lineage. In the second part of my talk, I will discuss our recent efforts on how stomatal production is influenced by high temperature, which is expected to significantly impact plant growth in the near future. Our work identifies a molecular link connecting high temperature signaling and the stomatal stem cells, and reveal a direct mechanism by which production of specific cell type can be controlled by a broadly-expressed environmental factor.

Date : **3 November 2017 (Friday)**
Time : **4:00 p.m.**
Venue : **Lecture Theatre C**
**The Hong Kong University of Science
& Technology**
Clear Water Bay, Kowloon

(Host faculty: Prof. Danny Leung)

All are Welcome!!