



BIOLOGY COLLOQUIUM

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Hosted by Dr Chae Eunyoung

Dynamic Chloroplast-Nucleus Communication during Plant Immune Responses



By Park Eunsook

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Plants have developed well-orchestrated strategies to defend against pathogen attack. Several subcellular compartments and interactions between organelles play an essential role in the activation of a successful immune response against invading pathogens. Chloroplasts are a primary production site of pro-defense molecules. Also, they communicate and coordinate with other organelles during defense via stromules, dynamic tubular extensions from chloroplasts. Recently stromules have been proposed to transport pro-defense signals into the nucleus during immunity. Interestingly, stromules extend along MTs and connect to AF anchor points surrounding nuclei, facilitating pulling of chloroplasts to nuclei during innate immunity. In this seminar, I will introduce chloroplast-nuclear communication via stromule and the regulation of the dynamics of stromule by plant cytoskeleton during plant immune responses.

Dr. Eunsook Park is an assistant professor of the department of Plant Sciences at Seoul National University, Korea. She received her M.S degree of Plant Genetics at Seoul National University in 2003 and Ph.D. of Plant Cell biology at the University of Tennessee, Knoxville, USA in 2010. Dr. park then studied vesicle trafficking during plant cell plate formation using chemical genetics during her first postdoc training with Dr. Georgia Drakakaki at the University of California, Davis, USA. In 2014, she moved to Dr. Dinesh-Kumar's lab to study the stromule, the protrusion of chloroplast during plant immune responses. Dr. Park came back to Seoul National University to study dynamic organellar communication in plant cells in plant immunity from 2017. She will move to USA this summer, as an assistant professor in the department of Molecular biology at the University of Wyoming. She will continue studying organelle-organelle interaction during plant stress responses..