



Prof. Dr. Hoo Sun Chung

Department of Molecular Biotechnology
Plant Biotechnology Research Centre
Plant Molecular Signalling Lab (PMSL)



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Short Biographie

Hoo Sun Chung received her BSc. in Biology and Chemistry at Yonsei University in South Korea and further received her MSc. In Plant Molecular Biology at the same institute. During her early education in Yonsei University, the good will of science exemplified in “golden rice” triggered her passion and dedication in plant research. Then, she moved to Michigan State University in USA for her PhD in Biochemistry and Molecular Biology and studied plant hormone Jasmonate signaling in plant defense responses under mentoring of Prof. Gregg Howe. She graduated as a Hans Kende awardee for the best dissertation in whole plant science field in Michigan State University. She joined Prof. Jen Sheen’s lab at Harvard Medical School to further dissect plant signalling mechanisms involving MAPK cascade. Since 2020, as an assistant professor in Ghent University Global Campus, she is leading a plant biotechnology research centre and establishing her research to continue to make exciting discoveries in plant molecular signalling for their amazing resilience.

Research Area

MAPK signaling, plant stress responses, plant innate immunity, molecular signaling of cellular plasticity for plant growth and development

Education

(2002) Yonsei University, Korea (BSc in Biology)

(2004) Yonsei University, Korea (MSc in Biology)

(2009) Michigan State University, USA (PhD in Biochemistry and Molecular Biology)

Experience

(2020- Present) Assistant Professor, GUGC, Korea

(2020-Present) Assistant Professor, Ghent University, Belgium

(2017-Present) Assistant in Molecular Biology, Mass General Hospital/Harvard Medical School, USA, Korea

(2016-2017) Research Associate, Harvard Medical School, USA

(2010-2016) Postdoctoral Fellow, Harvard Medical School, USA

(2010-2013) Gordon and Betty Moore Foundation Fellow, Harvard Medical School, USA

Top 5 Selected Publications

Liu KH, Niu Y, Konish M, Wu Y, Du H, **Chung HS**, Li L, Boudsocq M, McCormack M, Maekawa S, Ishida T, Zhang C, Shokat K, Yanagisawa S, Sheen J. (2017) Discovery of nitrate-CPK-NLP signaling in central nutrient-growth networks. *Nature* 545, 311-316

Chung HS*, Sheen J. (2017) MAPK Assays in Arabidopsis MAMP-PRR signal transduction. *Methods Mol Biol.* 1578, 155-166

Li JF, **Chung HS**, Niu Y, Bush J, McCormack M, Sheen J. (2013) Comprehensive Protein- Based Artificial microRNA Screens for Potent Gene Silencing in Plants. *Plant Cell* 25, 1507- 1522

Chung HS, Cook T, Depew C, Ogawa N, Kobayashi Y, Howe GA (2010) Alternative splicing expands the repertoire of dominant JAZ repressors of jasmonate signaling. *Plant J.* 63, 613-622

Chung HS, Howe GA (2009) A critical role for the TIFY motif in repression of jasmonate signaling by a stabilized variant of the JASMONATE ZIM-domain protein JAZ10 in Arabidopsis. *Plant Cell* 21, 131-145

**Full
Bibliography
URL Link**

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**Patent /
Projects**

BOF/STA: Unraveling MAPK signaling Networks in Arabidopsis (2020-2026)

**Research
Field of
Interests**

-Plant adaptation to changing environment
-Evolution of molecular signaling in land plants

**Organization
of Interests
visiting, research
collaboration,
networking, etc.**

-Korean Society of Plant Biologist
-Korean Society of Plant Pathology
-KOPRI