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15 August 2024 (Thurs), 3pm

Auditorium (Level 1)

Hosted by: Dr YUE Gen Hua

Progress report on nitrogen use efficiency and salt tolerance in rice



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Over-application of nitrogen fertilizer in field has caused negative impact on both environment and human health. Salinity stress progressively reduces plant growth and productivity. Natural variations in the key genes confers high nitrogen-use efficiency and salt tolerance. The recent progress will be reported on the regulatory mechanisms and new avenues to improve nitrogen-use efficiency and salt tolerance by exploiting superior alleles derived from rice germplasm in contemporary molecular-breeding programs.

Prof Wang is interested in multi-omics and molecular breeding on nitrogen-use efficiency and salt tolerance in rice. He has published key progresses in *Nature Genetics* (2024), *Nature Communications* (2019, 2023), *New Phytologist* (2017, 2022), *Plant Biotechnology Journal* (2021,2024), and *Plant Journal* (2022) in recent years.

Recent Publications:

- Wu, W. *et al.* The elite haplotype OsGATA8-H coordinates nitrogen uptake and productive tiller formation in rice. *Nature Genetics* (2024).
- Yu, J. *et al.* Genome-wide association studies identify OsWRKY53 as a key regulator of salt tolerance in rice. *Nature Communications* **14**, 3550 (2023).
- Tang, W. *et al.* Genome-wide associated study identifies NAC42-activated nitrate transporter conferring high nitrogen use efficiency in rice. *Nat Commun* **10**, 5279 (2019).