NUS National University of Singapore | Department of Biological Sciences
Faculty of Science

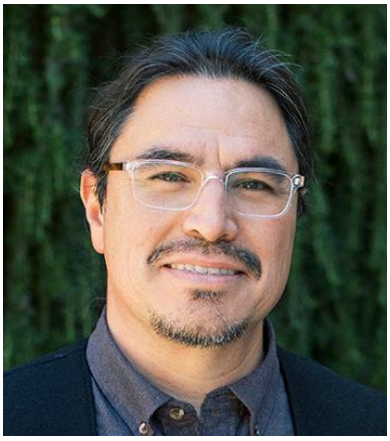
Map to Block S1A

SEMINAR

Tues, 9 Dec 2025 | 11 am | LT32

Hosted by Assoc Prof Lau On Sun & Asst. Prof Long Yuchen

The shape of water: Understanding how water availability affects the structure of roots at the cell and organ-scales



By José R. Dinneny
Stanford University and Howard Hughes Medical Institute

José Dinneny received his BS in Plant Biology and Genetics from UC Berkeley and his PhD from UC San Diego, where he worked with Detlef Weigel and Martin Yanofsky on cloning and characterizing the floral regulators JAGGED and NUBBIN. He completed his postdoctoral research with Philip Benfey at Duke University, developing the first tissue-specific map of transcriptional responses to abiotic stress using FACS. José established his independent laboratory at the Temasek Lifesciences Laboratory and the National University of Singapore as an inaugural National Research Foundation Fellow before moving to the Carnegie Institution for Science in 2011. In 2018, he joined the Stanford Biology Department as part of the Integrative/Organismal Biology group. He is a former Chan Zuckerberg Biohub Investigator, AAAS Fellow, HHMI-Simons Faculty Scholar, LiNC Fellow, and NIH and HHMI Fellow. His honors include the Science News SN10 "Scientists to Watch" (2017) and the ASPB Charles Albert Shull Award (2022). In 2024, he was appointed an HHMI Investigator.

The Dinneny lab investigates how cellular and developmental processes enable plants to survive limited and heterogeneous water availability. I will present work on mechanisms that protect cells from hyperosmotic stress by maintaining plasma membrane–cell wall attachments, as well as studies on how roots sense and respond to spatial variation in soil moisture through local regulation of branching and anatomy. Together, these findings illustrate multi-scale plant adaptation strategies and highlight pathways for potential crop improvement.