

- (PMMA), Ø180mm, t=5mm)





Root Phenotyping Researches

- X-ray CT, MRI
- 2D sheet medium
- RootReader3D (Java+ImageJ)–R. T. Clark (Cornell) et al.: Three-Dimensional Root Phenotyping with a Novel Imaging and Software Platform, Plant Physiology, 2011.
- gellan gum (polymer) medium

3D Shape Reconstruction of Plant Roots in a Cylindrical Tank From Multiview Images -Reconstructing 3D shape of live plant roots in water in the wild-Takeshi Masuda t.masuda@aist.go.jp

National Institute of Advanced Industrial Science and Technology (AIST) Tsukuba, Ibaraki, Japan

- Telephoto lens, 2m apart
- optical correction tank
- magnetically interfaced and computer controlled rotation table
- lightbox background









Sponsor:

New Energy and Industrial Technology Development Organization

• 3D root phenotyping for improved carbon sequestration, S. Liu, C. Cotter, U. Georgia, 2019

- maize
- unearthed and dried hard
- 2800 images per plant







Collaborators:



• M. Piñeros et al. Evolving technologies for growing, imaging, and analyzing 3D root system architecture of crop plants. Journal of Integrative Plant Biology, 2016.

 scaffold to keep the root's natural shape





