

College of Agriculture and Life Sciences  
Department of Horticulture Sciences  
Plant Breeding Consortium  
HTP In Plant Science

# **Introduction**

**Roberto Fritsche-Neto**

Assistant Professor - Vegetable Molecular Breeding

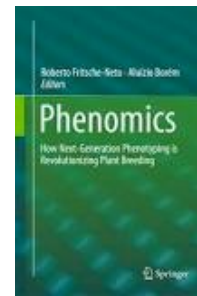
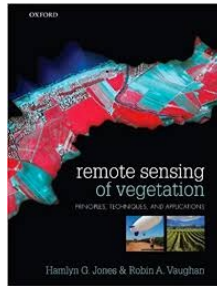
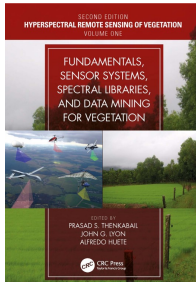
**2025**

# Schedule

Shift	Workflow
Day 1 Morning	Introduction to HTP / Image properties, and acquisition Image matrix practice on R Build shapefiles (plots) in R
Day 1 Afternoon	Indices, tools, and their applications Raster, index, counts, areas, and plant height on R
Day 2 Morning	Pre-processing images on R (filters, masks, extraction, and augmentation) Data mining and modeling CNN (Theory)
Day 2 Afternoon	Data mining and modeling CNN (Practice on R ) Envirotyping (Theory and Practice on R )

# Main bibliography and material

- Books



- Softwares

- QGIS - <https://www.qgis.org/en/site/>
- Metashape - <https://www.agisoft.com/>
- R - <https://cran.r-project.org/>
- Rstudio - <https://posit.co/download/rstudio-desktop/>