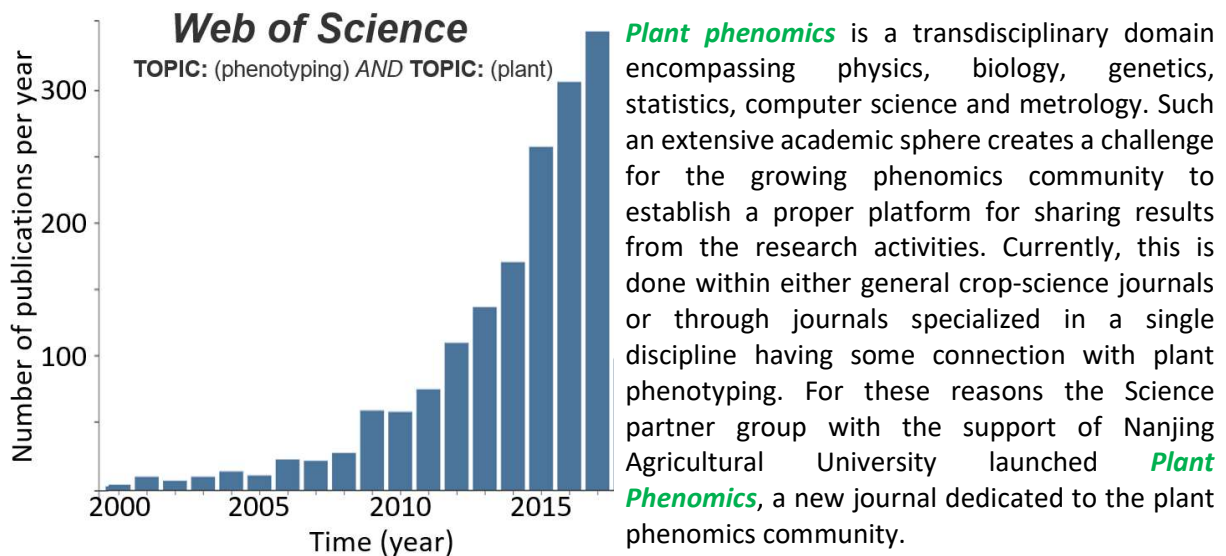


Plant Phenomics

Plant phenomics, the domain of plant phenotyping studies, has been rapidly emerging during the last decade (see figure below). Plant phenotyping accelerates plant breeding which contributes to challenge the global population food issue. However, plant phenotyping is becoming instrumental for modeling plant structure and function to understand eco-physiological processes and their link with genetics. Additionally, plant phenotyping is expected to serve decision support systems including smart agriculture and precision farming by providing the required information on crop functioning.



Plant Phenomics will publish studies covering three subdomains:

- 1) **data acquisition** for cells, organs, individual plants and plant canopy including both the root system and the aerial parts of all plant species, under both controlled and field conditions. It includes the related technological advances about sensors, vehicles, robotics, calibration and metrology issues
- 2) **data interpretation** to transform raw measurements into usable traits, and covers computer vision, signal processing, machine learning, statistical and physically based approaches
- 3) **data management**, including information systems, ontology, data sharing and standardization, data mining
- 4) **modeling** the plant structure and its dynamics, the plant functioning through detailed description of the ecophysiological processes as well as sensitivity analyses and data phenotypic data assimilation
- 5) **use for applications** including plant breeding and support decision systems at the field and farm levels, as well as resource management at the larger scales.

Plant Phenomics aims to rapidly become a leading scientific journal in the related field. As an open access journal, it will publish:

- Review articles and position papers
- Research articles
- Short communications

Plant Phenomics will also publish datasets and software to be attached to research articles to ease information sharing within the community.

To boost the launch of **Plant Phenomics**, publication fees will be waived out for the first three years. **Plant Phenomics** targets around 35 to 45 articles per year for the first three years, with a very rigorous review process and timely selection for the purpose of getting a high impact factor and attracting many researchers from the phenotyping community.