

Profile GreenRobust: Understanding robustness in plants from molecules to ecosystems

Plants are the foundations of life on earth. To ensure their survival, they have evolved strategies to cope with changes in their environment. In particular, they have developed sophisticated mechanisms to *maintain* their functions in the face of disturbances – a capacity termed “robustness”. With the human impact on our planet growing day by day, it is crucial to understand the underpinnings and limits of plant resilience if we are to develop effective, knowledge-based strategies that help maintain plant ecosystems and ensure agricultural productivity.

The GreenRobust cluster of excellence combines the expertise of the Universities of Tübingen, Heidelberg, and Hohenheim to understand how plants achieve robustness in light of an ever-changing environment. The cluster focuses on the investigation of robustness against climatic and biotic disturbances across various levels of biological organization, from molecules to populations, in a selected group of species from environmentally and agriculturally important plant families. GreenRobust will generate a wealth of data on plant robust behavior, which will be made available to the scientific community, and use network theory and artificial intelligence to develop and test models that describe the mechanisms of plant robustness.

The cluster’s spokesperson is Professor Rosa Lozano-Durán from the University of Tübingen’s Center for Plant Molecular Biology. Co-spokespersons are Professor Karl Schmid from the Institute of Plant Breeding, Seed Science and Population Genetics at the University of Hohenheim, and Professor Thomas Greb from the Centre for Organismal Studies at Heidelberg University.

Further information will be available shortly at <https://greenrobust.de/>.

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