

# IGZ Colloquium

Thursday, 4 July 2019, 13:00  
Lecture room Grossbeeren

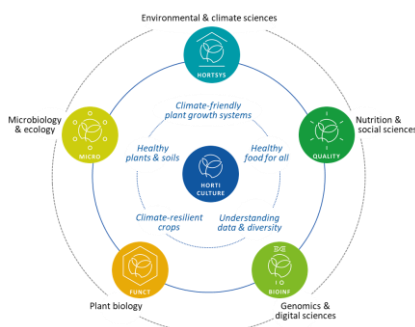
## Professor Markus Schwarzländer

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# Monitoring Cellular Energy Physiology and Regulation in Plants

The energy conversion that occurs in plant cells requires tight surveillance and dynamic adjustment to meet demands, maintain efficiency and avoid dysfunction. Frequent and often dramatic changes in the environment and developmental transitions of plants, such as the day-night transitions, changes in oxygen availability or seed germination make tailored control mechanisms particularly important. Nevertheless there is a limited understanding of the dynamics of energy physiology and their regulation at the subcellular level in plants. We have been using quantitative confocal microscopy and fluorimetry to assess transitions in energy physiology in vivo using genetically-encoded fluorescent protein sensors. In this seminar I would like to highlight recent progress that we have made in dissecting subcellular ATP dynamics, redox regulation and calcium transport. The impact of cellular energy dynamics and its control as central determinant of plant-environment interactions will be discussed.

Moderator  
Eckhard George



### IGZ

Leibniz Institute of Vegetable and Ornamental Crops  
Leibniz-Institut für Gemüse- und Zierpflanzenbau  
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The mission of the IGZ is to make fundamental advances in understanding of plant systems to accelerate the development of sustainable horticulture.