

Speaker: Prof. Dr. Claus Schwechheimer
Plant Systems Biology,
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Title: AGC kinases and The Power of Movement in Plants

Time: Tuesday, November 19, 2024, 2 pm

Place: IPK Lecture Hall and via Zoom (Hybrid Meeting)

<https://ipk-gatersleben-de.zoom-join.com/j/62274622536?pwd=Q76YkTXXbl6JYLmwHEaLo0HxxcBSGb.1>

Meeting-ID: 622 7462 2536

Kenncode: 806417

Abstract:

AGC kinases are a family of evolutionarily conserved serine/threonine protein kinases. In plants, we have uncovered that AGC1 kinases are essential for the activation of PIN-FORMED auxin transporters. Like PIN transporters, AGC1 kinases are polarly distributed in and, respectively, at the plasma membrane of plant cells for the directional transport of auxin from cell-to-cell and through the plant. I will present results from our investigations into the mechanisms of polarity regulation of AGC1 kinases and their roles in different aspects of plant growth, with a particular emphasis on mechanisms required for land plant evolution.

Research profile

The laboratory of Claus Schwechheimer is using transcriptomics, genomics, proteomics and metabolomics as analytical tools for the understanding of fundamental cell biological processes that are regulated by the plant hormones auxin and gibberellin. The laboratory has uncovered the role of so-called AGC1 protein kinases as activators of PIN-mediated auxin transport, which formed the basis of further in-depth analysis of the AGC1 kinases in plant growth and development. Examinations into the role of GATA transcription factors, originally identified as genes regulated downstream of gibberellin signaling, represent another important field of research in the laboratory.

The Chair of Claus Schwechheimer hosts the Independent Research groups of Prof. Dr. Ulrich Hammes and Dr. Philipp Denninger.

From 2011 – 2023, Claus Schwechheimer has been spokesperson of the DFG-funded research network SFB924 - Molecular mechanisms regulating yield and yield stability in plants.

Website: <http://www.wzw.tum.de/sysbiol/>