

GATERSLEBEN LECTURE



Speaker: Prof. Dr. Sabine Zachgo
Botany, Genetics and Evolution of Plant Diversity
Department of Biology/Chemistry
University of Osnabrueck, Germany



Title: How stressful was plant terrestrialization?
Contribution of transcription factors and redox
processes to land plant adaptation

Time: Tuesday, May 9, 2023, 2 pm

Place: IPK Lecture Hall

VCS Zoom: [https://ipk-gatersleben-](https://ipk-gatersleben-de.zoom.us/j/67789876252?pwd=VFRhQkErQkwxWFQzTnNkMnIMMTNjUT09)

[de.zoom.us/j/67789876252?pwd=VFRhQkErQkwxWFQzTnNkMnIMMTNjUT09](https://ipk-gatersleben-de.zoom.us/j/67789876252?pwd=VFRhQkErQkwxWFQzTnNkMnIMMTNjUT09)

Meeting-ID: 677 8987 6252

Kenncode: 717826

Skype for Business: <https://ipk-gatersleben-de.zoom.us/skype/67789876252>

Abstract:

Over 450 MYA, plants conquered the land which was a key event in the history of our planet. Leaving the protective aquatic environment, early diverging land plants managed to adapt to the exposure of novel abiotic stresses such as increased light intensities, drought and temperature fluctuations as well as novel biotic stressors. We investigate key regulatory transcription factors (TF) and their molecular functions during plant evolution contributing to the stunning diversification of extant land plants. Analyses in the liverwort *Marchantia polymorpha* reveal an impact of TF redox-regulation and the importance of sensing redox-changes and mediating adaptive responses by altering downstream target gene networks. Ideally, adaptive processes are studied in a single organism that is capable to thrive in water as well as on land. Progress is presented establishing the amphibious liverwort *Riccia fluitans* as a novel basal land plant model organism, which develops two different phenotypes in response to altered environments. Thereby, it enables to investigate molecular processes regulating cellular and tissue plasticity encoded by a single genome.

Academic Career:

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|------------|---|
| Since 2008 | Director of the Botanical Garden, Osnabrück University |
| Since 2007 | Professor of Botany, University of Osnabrück |
| 2005 | Habilitation in Botany, University of Cologne |
| 1999-2007 | Group leader, Department of Molecular Plant Genetics, MPIPZ, Cologne |
| 1998 | Postdoc, MPIPZ, Plant Molecular Genetics |
| 1997 | Visiting scientist, University of British Columbia, Vancouver, CA |
| 1996 | Postdoc, University of Cologne |
| 1992-1995 | PhD thesis, MPIPZ, Cologne, Plant Molecular Genetics (<i>summa cum laude</i>) |
| 1990 | Diploma thesis, EMBL Heidelberg |
| 1988-1989 | Studies of Biology, Duke University, North Carolina, USA |
| 1984-1988 | Studies of Biology, University of Würzburg |

Activities:

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| 2018-2023 | WIPs.De(II) project |
| Since 2016 | Member of CellNanOs, University of Osnabrück |
| 2014-2020 | Member of the SPP1710 |
| 2013 -2018 | Speaker of the national WIPs-De project (Wildpflanzenschutz-Deutschland, Federal Agency of Nature Conservation, BMU) |
| 2012/2013 | Dean of the Faculty of Biology/Chemistry, University of Osnabrück |
| Since 2011 | Member of the SFB944 |
| Since 2009 | Head of the German genebank project 'Wildpflanzen für Ernährung und Landwirtschaft' (WEL, BMELV) |
| 1988-1989 | DAAD scholarship, Duke University, USA |

Prof. Dr. Nils Stein (Organizer)

Student board (Host)