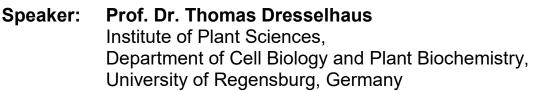
## GATERSLEBEN LECTURE



Title: The plant egg cell

Time: Tuesday, July 11, 2023, 2 pm

## Place: IPK Lecture Hall

https://ipk-gatersleben-

de.zoom.us/j/68666757098?pwd=akRodmN1VjFCMFpGSnNCaFU0NFZndz09 Meeting-ID: 686 6675 7098

Kenncode: 746439

Skype for Business: https://ipk-gatersleben-de.zoom.us/skype/68666757098

## Abstract:

From ultrastructural and cytoskeleton studies the egg cell of flowering plants was described as an unspecialized parenchyma cell being a partial protoplast that is embedded in thousands of ovary cells. It must, however, be a very special and valuable cell as the gene regulatory networks established to restrict its number to a single cell per ovule are tremendous and consist of multiple layers of controls involving among others various hormones, but also small non-coding RNA pathways. Thus, (i) how is egg cell specification determined, (ii) does it have similar and/or overlapping functions with its sister cells, the glandular synergid cells, (iii) how does it regulate fertilization and (iv) prevent polyspermy, (v) how does it suppress embryo development until fertilization occurs and (vi) how is this block modified in apomictic plants that reproduce via parthenogenesis? We address all these and other questions associated with plant egg cells and zygotes of different plant species, and use reverse genetic approaches to elucidate the evolution and function(s) of egg cell-specific and -enriched genes. Among others I will report how egg cells aquire their specificity, act in concert with synergids cells in pollen tube reception, sperm cell activation and degradation of 'fertility factors', but also how the embryonic program is activated after gamete fusion and during parthenogenesis, respectively.

## Education and Career

Since 2006	Full Professor (W3) and Chairman (Cell Biology and Plant Biochemistry),
	University of Regensburg, Germany
2003	Habilitation in Molecular Biology and Genetics
2000 - 2006	Assistant Professor at the Biocenter Klein Flottbek, University of Hamburg
1999	Research coordinator at Agricultural Technologies and Genetics GmbH, Rastatt
1995	Visiting Scientist; Prof. Dr. Peter Langridge, Waite Institute, Adelaide, Australia
1994 - 1999	Group leader at the University of Hamburg with Prof. Dr. Horst Lörz
1994	Dr. rer. nat. at the University of Hamburg (Supervisor: Prof. Dr. Horst Lörz, Department
	Developmental Biology and Plant Biotechnology)
1990	Diploma in Biology
1984 – 1990	Studying Biology at the Westfälische-Wilhelms University in Münster and Eberhardt-Karls
	University in Tübingen, both Germany
1983 – 1984	Military Service in Berchtesgaden and Bad Reichenhall, Germany
1983 Abitur	Kopernikus Gymnasium in Rheine/NRW, Germany





Prof. Dr. Nils Stein (Organizer Host)