

GATERSLEBEN LECTURE



Speaker: **Prof. Dr. Arp Schnittger**
Department of Developmental Biology,
University of Hamburg, Germany

Title: **The cell biology of genetics**

Time/Place: **Tuesday, March 26, 2019, 2 pm**
Lecture Hall, IPK Gatersleben

Abstract:

Plant Recombination between homologous chromosomes is a fundamental source of genetic variation and the basis of nearly all genetics. With this, recombination is also key to evolution and breeding. The exchange of chromosome segments is accomplished in meiosis and involves tight control of chromosome behavior, i.e. pairing and synapsis of homologous chromosomes, the formation of DNA double strand break and subsequent repair through cross-overs followed by an intricate mechanism to equally distribute the chromosomes to daughter cells. Our research goal is to understand how the distinct molecular events of the recombination process are orchestrated. We have focused on the cell cycle control machinery and have in particular identified CYCLIN-DEPENDENT KINASE A;1 (CDKA;1), the Arabidopsis homolog of the animal and yeast kinases Cdk1 and Cdk2, as a major driving force through meiosis. A substrate search revealed that many of the central meiotic regulators are potential CDK phospho-targets. To further elaborate on the control processes of meiosis, we have developed a live cell imaging system that allows us to follow chromosome behavior in great temporal and spatial resolution. This imaging system also provides us with a new possibility to quantify the dynamic processes of meiosis. Here, I will present the latest data from our team how differential phosphorylation influences recombination and promotes progression through meiosis.

Short bio:

seit 2014	Professur Entwicklungsbiologie der Pflanzen, Universität Hamburg
2011 - 2014	Koordinator des Trinationalen Instituts für Pflanzenforschung
2009 - 2013	Leiter der Abteilung Molecular Mechanisms of Plant Plasticity (frühere Zellbiologie) am Institut de Biologie Moléculaire des Plantes (IBMP), Strasbourg, Frankreich
2007 - 2014	Forschungsgruppenleiter am Institut de Biologie Moléculaire des Plantes (IBMP) des Centre national de la recherche scientifique (CNRS), Strasbourg, Frankreich
2004 - 2006	Volkswagen-Stiftung-Nachwuchsgruppenleiter am Lehrstuhl Botanik III, Universität Köln
2001 - 2007	unabhängiger Nachwuchsgruppenleiter am Lehrstuhl für Botanik III, Universität Köln
2001	Promotion in Genetik, Universität Tübingen
1997	Diplom in Biologie, Universität Tübingen
1991 - 1997	Studium der Biologie, Universität Tübingen und University of Washington, Seattle (USA)



Prof. Dr. Nils Stein
(organizer)

Prof. Dr. Andreas Houben
(host)

If you are interested in personal discussions with the speaker please contact Nicole Wahle (phone: 039482/5219, email: wahle@ipk-gatersleben.de) beforehand.