Leopoldina
Nationale Akademie
der Wissenschaften

Curriculum Vitae Prof. Dr. Ingo Schubert

Name: **Ingo Schubert**
Geboren: **23.03.1947**

Ingo Schubert ist Pflanzengenetiker/Cytogenetiker am Institut für Pflanzengenetik u. Kulturpflanzenforschung (IPK) Gatersleben. Er arbeitet derzeit mit einer DFG-finanzierten Projektgruppe an der Evolution von Genomen, Karyotypen und spezifischen Chromosomendomänen, sowie an DNA-Schadensreparatur und nachfolgenden Mutationen.

Akademischer und beruflicher Werdegang

seit 2013	Senior-Gastwissenschaftler am Institut für Pflanzengenetik und Kulturpflanzenforschung (IPK) Gatersleben
1990 - 2012	Mitglied des Direktoriums am IPK, Abteilungsleiter Cytogenetik u. Genomanalyse
2001	Honorarprofessur, Universität Kassel
1992	Habilitation, Martin-Luther-Universität Halle (MLU)
1982	Promotion B (Habilitationsäquivalent), Akademie der Wissenschaften der DDR
1975	Promotion, MLU
1965 - 1970	Studium der Biologie, Ernst-Moritz-Arndt-Universität Greifswald

Funktionen in wissenschaftlichen Gesellschaften und Gremien (Auswahl)

2009 und 2012	Evaluation Committee of the Central European Institute of Technology, Brünn, Tschechien

2005 - 2009 Advisory Board of the Centre of Excellence in Plant Agrobiology & Molecular Genetics in Poznan, Polen

Forschungssschwerpunkte

Chromosome mutagenesis and repair
Mechanisms of origin and chromosomal distribution of structural chromosome aberrations (CA) and sister chromatid exchanges (SCE).
Establishing genotoxicity tests (CA and SCE for conifers; Comet assay for field bean, barley, Arabidopsis).
Impact of repair inhibitors and sublethal stresses on CA and SCE frequencies.
Quantification of DNA repair pathways, e.g., long-range sequence conversion, classical Break-induced Replication (BIR), homologous recombination and non-homologous end-joining.

Chromosome structure
Characterisation of structural diversity and plasticity of plant chromosomes/chromosomal domains by means of banding techniques, restrictase treatment, replication patterns, in situ hybridization (ISH) and immuno-labelling of antigens;
Investigation of mobility of nucleolus-organising regions (NOR) in Allium, of interspecific nucleolar dominance in barley, of canonical and alternative telomere sequences in Alliaceae and in Lentibulariaceae.
Physical mapping of single and multi-copy sequences by ISH, or by PCR on microdissected or flow-sorted chromosomes.
Detection of centromere-typical retroelements in cereals and of conserved kinetochore proteins at plant centromeres. Elucidation of centromere sequence organisation in several plant groups.
De novo formation of plant centromeres.
Investigation of maintenance mechanisms of plant centromeres *via* distinct deposition routes of the centromeric histone variant CENH3.

Chromosome evolution
Experimental studies on mechanisms of chromosome rearrangements, of diploid chromosome number alteration and of the upper and lower limits of chromosome size.
Application of chromosome painting for analyses of chromosome homeology and karyotype evolution in plants.

Interpase chromosome dynamics
Establishing of interphase cytogenetics for plants to correlate epigenetic processes (DNA methylation, histone acetylation, phosphorylation and methylation) during cell cycle and development with transcription, replication, repair, formation and maintenance of heterochromatin and centromeres.
Studies of chromatin cohesion and condensation in mutants and after DNA damage.
Description of chromosome territories by chromosome painting in correlation with transcription, replication, recombination and development.