



Lothar Willmitzer

Max Planck Institute of Molecular Plant Physiology
Managing Director
Head of Department: Molecular Physiology
Head of the Research Group: Genes and Small Molecules

- 1952** Born on 27th March 1952
- 1970** Study of Chemistry, TU Braunschweig, Germany
- 1983** Habilitation in Genetics, University of Cologne, Germany
- 1985** Leader of an Independent Research Group within the Gen Center Cologne at the Max Planck Institute for Plant Breeding Research, Cologne, Germany
- 1986** Call for Molecular Biology, Free University Berlin,
at the same time Head of the Institute für Genbiologische Forschung GmbH, Berlin, Germany
- 1993** Director of the Max Planck Institute of Molecular Plant Physiology, Potsdam-Golm and Scientific Member of the Max Planck Society
- 1993** Member of the Berlin Brandenburg Academy of Science
- 1993** Corresponding member of the Göttingen Academy of Science
- 1994** Member of the „Academia Europaea“
- 1995** Honorary Professor at the University Potsdam, Germany
- 1996** Founder and Head of Shareholders of the Biotechnology company „PlantTec Biotechnologie GmbH, Potsdam, Germany
- 1996-2000** Member of the Senat of the Deutsche Forschungsgemeinschaft (DFG), Germany
- 1998** Founder and Member of the Scientific Advisory Board of the „Functional Genomics“ Company „Metanomics GmbH und Co KG“, Berlin, Germany
- 1998** Member of the Scientific Advisory Board of the Otto Warburg-Center, Rehovot, Israel
- 1998** Member of the Scientific Advisory Board of the Robert-Koch-Institut, Berlin, Germany
- 1999** Member of the Deutsche Akademie der Naturforscher „Leopoldina“ Halle, Germany
- 1999** Member of the Board of Trustees of the Technologiestiftung Brandenburg, Germany
- 2002** Member of the Scientific Advisory Board of the Institute for Plant Genetics of the Polish Academy of Science
- 2002** Member of the Governing Council of the John Innes Center, England
- 2002** Member of the Board of Trustees of the Karl Heinz Beckurts-Stiftung
- 2002** Member of the Scientific Advisory Board of the Institute for Plant Biochemistry, Halle, Germany
- 2002-2005** Head of the Biological-Medical Section of the Max Planck Society

Research Interest

Our research interest focuses around small molecules/metabolites present in plant cells. More specifically we are interested in their biosynthesis, transport and storage respectively the genes controlling these aspects. Whereas in the past the emphasis was put on the use of plants changed via forward or reverse genetic approaches (loss of function/gain of function) and their subsequent biochemical and physiological characterization, our approach is presently shifting on the one hand towards taking advantage of natural diversity (change of function) and their subsequent characterization. To this end genotyped introgression and recombinant inbred lines derived from *Arabidopsis thaliana* ecotypes are phenotyped using a number of platform technologies notably metabolic profiling, a new MS- based technology allowing the high through put parallel analysis of several hundred metabolites. This analysis aims at the identification of metabolic QTL's.

A second approach uses network analysis using *Arabidopsis thaliana* again as the model organisms. To this end *Arabidopsis thaliana* is exposed to several hundred different (environmental) conditions and the transcript and metabolic profile is analyzed in parallel. Candidate genes are identified based on strong links between transcript levels and metabolites/small molecules and tested via reverse genetic means.

Expertise: Biochemistry, molecular biology, genetics, bioinformatics

Specialities: Metabolic profiling