

PROFILE

Matthias Fladung, PhD, Associate Prof.

Nationality: German

Date of birth (Optional): May 24, 1958

Participation in COST Action FP0905: Vice-Chair of Action

Contact data:

Johann Heinrich von Thünen Institute (vTI)
Institute of Forest Genetics
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Personal webpage (if available)

Institute web page: <http://www.vti.bund.de/en/institutes/fg/>

Research area and species (key words):

Gene technology and biosafety research in transgenic trees

Genome analysis

Functional genomics

Establishment of genetic maps

Development of molecular markers

Populus

Fagus

Picea

Quercus

CURRICULUM VITAE (Max 2 pages)

Present position

2010, Senior researcher, Vice Head of Institute)

Education/Professional Career

Year	Position/Fellowship etc.
1977-1983	Study of Biology in Konstanz and Kiel, Germany
1983	Diploma degree
1984-1987	PhD-thesis at MPI Plant Breeding, Cologne, Germany
1987	PhD-degree
1988-1993	Post-doc at MPI Plant Breeding, Cologne, Germany
1990-1993	Several scientific visits at „Istituto Sperimentale per la Cerealicoltura, Bergamo, Italy
Since 1993	vTI, Institute of Forest Genetics, Großhansdorf

Others

Year	Responsible for..., or member of etc..
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Research Projects (relevant to Action)

1993-1996	EU-project « Stability and expression of foreign genes in Populus”
1997-2000	National project ”Stability of foreign genes in transgenic aspen under field conditions
1996-2001	1. field release experiment with transgenic aspen
2000-2003	2. field release experiment with transgenic aspen
2001-2005	Coordinator of cooperative joint project on “Tree biosafety” and national project on “Induction of sterility in transgenic aspen”

2004-2006 2 national projects "Expression and stability of foreign genes" and "Modelling of gene flow"

2008-2011 National project "Confinement studies and sterility issues in transgenic aspen"

Selected Publications and Communications (relevant to Action)

Walter, C., Fladung, M., Boerjan, W. (in press) The 20-year environmental safety record of GM trees. *Nature Biotechnology*, in press.

Fladung, M., Becker D. (2010) Targeted integration and removal of transgenes in hybrid aspen (*Populus tremula* L. x *P. tremuloides* Michx.) using site-specific recombination systems. *Plant Biology* 12, 334-340.

Fladung, M., Schenk, T.M.H., Polak, O., and Becker D. (2010) Elimination of marker genes and targeted integration via FLP/FRT-recombination system from yeast in hybrid aspen (*Populus tremula* L. x *P. tremuloides* Michx.). *Tree Genes Genomes* 6(2), 205-217. DOI 10.1007/s11295-009-0241-x

Flachowsky, H., Hanke, M.-V., Peil, A., Strauss, S.H., Fladung M. (2009) A review on transgenic approaches to accelerate breeding of woody plants. *Plant Breeding* 128, 217-226.

Hönicka, H., Nowitzki O., Hanelt D., Fladung, M. (2008) Heterologous overexpression of the birch FRUITFULL-like MADS-box gene BpMADS4 prevents normal senescence and winter dormancy in *Populus tremula* L. *Planta* 227, 1001–1011

Dünisch, O., Funada, R., Nakaba, S., Fladung M. (2006) Influence of overexpression of a gibberellin 20-oxidase gene on the kinetics of xylem cell development in hybrid poplar (*Populus tremula* L. x *P. tremuloides* Michx.). *Holzforschung* 60, 608-617.

Hoenicka H, Fladung M (2006) Faster evaluation of sterility strategies in transgenic early flowering poplar. *Silva Genetica* 55, 241-292.

Hönicka, H., Fladung, M. (2006) Biosafety in *Populus* spp. and other forest trees: from non-native species to taxa derived from traditional breeding and genetic engineering. *Trees* 20, 131-144.

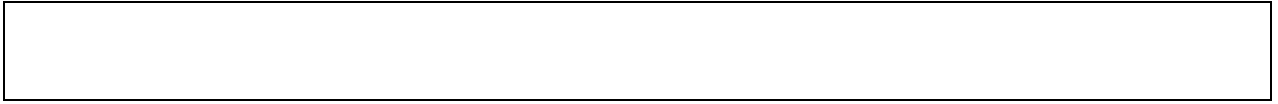
Fladung, M., Nowitzki, O., Kumar S., Hoenicka, H. (2005) The site-specific recombination systems Cre-lox and FLP-FRT are functionally active in poplar. *Forest Genetics* 12(2):121-130.

Kaldorf, M., Renker, C., Fladung, M., Buscot, F. (2004) Characterization and Spatial Distribution of Ectomycorrhizas Colonizing Aspen Clones Released in an Experimental Field. *Mycorrhiza* 14, 295-306.

Kumar, S., Fladung, M. (2002) Transgene integration in aspen: structures of integration sites and mechanism of T-DNA integration. *Plant J.* 31, 543-551.

Kumar, S., Fladung, M. (2001) Gene stability in transgenic aspen (*Populus*). II. Molecular characterization of variable expression of transgene in wild and hybrid aspen. *Planta* 213, 731-740.

Fladung, M. (1999) Gene stability in transgenic aspen-*Populus*. I. Flanking DNA sequences and T-DNA structure. *Mol. Gen. Genet.* 260, 574-581.



RESEARCH INSTITUTE (Max 1 page)

Description

<http://www.vti.bund.de/en/institutes/fg/>

Johann Heinrich von Thünen-Institut, Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute of Forest Genetics

The Institute carries out research on genetics of indigenous and exotic tree and shrub species. The studies help to elaborate recommendations for national and international laws, conventions and strategies in the area of forest reproductive material, biological diversity, control of origin for timber and forest reproductive material, conservation of forest genetic resources, genetic engineering, adaptation to climate change and optimisation of biomass production.

Fields of research:

- Securing the origins and quality of seeds and plants
- Maintenance and evaluation of forest genetic resources
- Biodiversity in forests
- Evaluating the risks of biotechnology

Infrastructure

- Tissue culture laboratories and cultivation rooms
- Microscopy room
- S1-laboratories and cultivation rooms
- Laboratories for genetic analyses
- Arboretum
- Field trials
- Greenhouses