

Resume of

Norman Warthmann

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EDUCATION

Nov, 2002 – present:

Research Scientist at the Max-Planck-Institute (MPI) for Developmental Biology in Tuebingen, Germany. Currently finishing my PhD thesis.

Aug, 2002: Diploma of Science (Biology) in Plant Physiology, Genetics and Biochemistry at the University of Tuebingen, Germany.

Jun, 2002: Summer Institute in Statistical Genetics, North Carolina State University

2001-2002 student research fellow at the Salk Institute for Biological Studies, La Jolla, USA.

SCIENTIFIC WORK EXPERIENCE

Since Nov, 2002 I have been a PhD student in the lab of Detlef Weigel, "Department of Molecular Biology", at the Max Planck Institute for Developmental Biology, Tuebingen, Germany. My thesis is supervised by Prof. Detlef Weigel (MPI) and Prof. Vera Hemleben (University of Tuebingen).

I am working on several topics using methods of Molecular Biology and Bioinformatics:

Comparative Genomics

- "Explorative shotgun-sequencing" (by Sanger) of *Arabis alpina*
- Creating a comparative genetic map between *A. alpina* and *Arabidopsis thaliana*
- Polymorphism detection (by Illumina/Solexa sequencing)
- Develop software for SNP-discovery and SNP-assay-development (MSQT)
- Creating universal SNP-sets for genotyping
- QTL-mapping
- Re-sequencing of *Arabidopsis thaliana* accessions by DNA hybridization on whole genome tiling-arrays
- BAC library screening and multi-species comparisons of large genomic regions

microRNA's

- Artificial microRNA's (amiRNAs) as a reverse genetics tool in *Arabidopsis thaliana* and rice (*Oryza sativa*)
- Regulation and evolution of an endogenous miRNA, miR319a

SCIENTIFIC PUBLICATIONS

Schneeberger K, Hagmann J, Ossowski S, Warthmann N, Gesing S, Kohlbacher O, Weigel D.

Simultaneous alignment of short reads against multiple genomes

Genome Biol. 2009 Sep 17;10(9):R98.

Schwartz C, Balasubramanian S, Warthmann N, Michael TP, Lempe J, Sureshkumar S, Kobayashi Y, Maloof JN, Borevitz JO, Chory J, Weigel D.

Cis-regulatory Changes at FLOWERING LOCUS T Mediate Natural Variation in Flowering Responses of *Arabidopsis thaliana*

Genetics. 2009 Aug 3.

Sureshkumar Balasubramanian, Christopher Schwartz, Anandita Singh, Norman Warthmann, Min Chul Kim, Julin N. Maloof, Olivier Loudet, Gabriel T. Trainer, Tsegaye Dabi, Justin O. Borevitz, Joanne Chory, Detlef Weigel

QTL Mapping in New *Arabidopsis thaliana* Advanced Intercross-Recombinant Inbred Lines

PLoS ONE 4(2): e4318 (2009)

Stephan Ossowski, Korbinian Schneeberger, Richard M. Clark, Christa Lanz, Norman Warthmann, and Detlef Weigel

Sequencing of natural strains of *Arabidopsis thaliana* with short reads

Genome Res. 2008 Dec;18(12):2024-33.

Norman Warthmann, Hao Chen, Stephan Ossowski, Detlef Weigel and Philippe Hervé

Highly Specific Gene Silencing by Artificial miRNAs in Rice

PLoS ONE 3(3): e1829

Norman Warthmann, Sandip Das, Christa Lanz, and Detlef Weigel

Comparative Analysis of the MIR319a microRNA Locus in *Arabidopsis* and Related Brassicaceae

Mol Biol Evol. 2008 May;25(5):892-902

Kirsten Bomblies, Janne Lempe, Petra Eppele, Norman Warthmann, Christa Lanz, Jeffery L. Dangl, Detlef Weigel

Autoimmune Response as a Mechanism for a Dobzhansky-Muller-Type Incompatibility Syndrome in Plants

PLoS Biol 5(9): e236

Norman Warthmann, Joffrey Fitz, and Detlef Weigel

MSQT for choosing SNP assays from multiple DNA alignments

Bioinformatics 23(20):2784-2787

Christine Dreyer, Margarete Hoffmann, Christa Lanz, Eva-Maria Willing, Markus Riester, Norman Warthmann, Andrea Sprecher, Namita Tripathi, Stefan R Henz, Detlef Weigel

ESTs and EST-linked polymorphisms for genetic mapping and phylogenetic reconstruction in the guppy, *Poecilia reticulata*

BMC Genomics 2007, 8:269

Richard M. Clark, Gabriele Schweikert, Christopher Toomajian, Stephan Ossowski, Georg Zeller, Paul Shinn, Norman Warthmann, Tina T. Hu, Glenn Fu, David A. Hinds, Huaming Chen, Kelly A. Frazer, Daniel H. Huson, Bernhard Schölkopf, Magnus Nordborg, Gunnar Rättsch, Joseph R. Ecker, and Detlef Weigel

Common Sequence Polymorphisms Shaping Genetic Diversity in *Arabidopsis thaliana*

Science 20 July 2007: 338-342

Palatnik JF, Wollmann H, Schommer C, Schwab R, Boisbouvier J, Rodriguez R, Warthmann N, Allen E, Dezulian T, Huson D, Carrington JC, Weigel D.

Sequence and Expression Differences Underlie Functional Specialization of *Arabidopsis* MicroRNAs miR159 and miR319

Dev Cell, 2007 Jul;13(1):115-25

Johannes Mathieu, Norman Warthmann, Frank Küttner, and Markus Schmid

Export of FT Protein from Phloem Companion Cells Is Sufficient for Floral Induction in *Arabidopsis*

Current Biology, Vol 17, 1055-1060 (2007)

Balasubramanian S, Sureshkumar S, Agrawal M, Michael TP, Wessinger C, Maloof JN, Clark R, Warthmann N, Chory J, Weigel D.

The PHYTOCHROME C photoreceptor gene mediates natural variation in flowering and growth responses of *Arabidopsis thaliana*

Nature Genetics, 38, 711 - 715 (2006)

Schwab R, Ossowski S, Riester M, Warthmann N, Weigel D.

Highly Specific Gene Silencing by Artificial MicroRNAs in *Arabidopsis*

The Plant Cell 18:1121-1133 (2006)

Jonathan D. Werner, Justin O. Borevitz, Norman Warthmann, Gabriel T. Trainer, Joseph R. Ecker, Joanne Chory, and Detlef Weigel

Quantitative trait locus mapping and DNA array hybridization identify an FLM deletion as a cause for natural flowering-time variation

Proc Natl Acad Sci U S A. 2005 Feb 15;102(7):2460-5.

PREVIOUS SCIENTIFIC WORK EXPERIENCE

May, 2001- Oct, 2002: Diploma thesis in the lab of Detlef Weigel, Salk Institute for Biological Studies, La Jolla, CA, USA. I conducted a phylogenetic footprinting approach to reveal the regulation of the "Flowering Locus T" gene in *Arabidopsis thaliana*, an important gene for flowering time control in response to photoperiod and temperature. This work

was supervised by Detlef Weigel (Salk Institute and MPI) and Prof. Gerd Juergens (U Tuebingen) and it was funded by the German Student Exchange Council (DAAD), and the Salk Institute.

Oct, 1999 – May, 2001: tutor in botanical courses at the University of Tuebingen, Department for Ecological Physiology of Plants. Supervisor: Prof. Dr. R. Hampp.

June, 1999 – May, 2001: student research assistant at the Center of Molecular Biology of Plants, University of Tuebingen (ZMBP), in the Genetics department. With the help of transformed plants the role of the phytohormone Cytokinin was investigated. Supervisor: PD Dr. T. Schmuelling.

Jun, 1998 - October, 2000: student research assistant in the Department for Ecological Physiology of Plants. Supervisor: Prof. Dr. R. Hampp.

For a reforestation program in Brazil the genetic distinction of different ecotypes of the Brazil pine was investigated. For this purpose, I spent several weeks in Brazil.

Dec 1997-May 1998: student research assistant for DNA-analysis of plant pathogen fungi in the Department of Botany, University of Tuebingen. Supervisor: Dr. D. Begerow.

August 1997: internship at the State Museum of Natural History in Stuttgart, Germany.

MILITARY CAREER

Since July, 1997 second lieutenant reserves (stand-by).

July 1994-June 1996 active service in the 2ndcompany/Mountain Ranger Battalion 233

April-July, 1996: assistant platoon leader in a mountain ranger company in the German Army. I was responsible for four corporals, about 50 privates and three armored personnel carriers.

July-December, 1995: squad leader of a sniper detail. I was responsible for about ten privates and one armored personnel carrier.

My commanding officer from 1994 to 1996 was Captain K. Lau.

ADDITIONAL SKILLS

Languages:

Native speaker of German; fluent in written and spoken English; qualifications in Latin and Classical Greek.

Computer and programming skills:

Platforms: MAC OSX (and OS 9), Linux, Unix (Solaris) and Windows;
Extensive use of all kinds of software on all platforms;
Programming skills in Perl, R and S-plus, PostgreSQL and MySQL.

Pilot license:

I have the FAA pilot certificate "Private Pilot", # 2546772, "Airplane Single Engine Land Instrument Airplane" (PPL and IFR) including a tail-wheel rating, issued by the Federal Aviation Administration, USA.

Miscellaneous:

I have a German wildlife preservation and hunting license and I am holding a 2 star diving license, a truck-driving license, and a motorcycle driving license.