

## **MARKUS RIEDERER - CURRICULUM VITAE**

### ***PERSONAL***

Name: Markus RIEDERER  
Date of Birth: 2 May 1956  
Place of Birth: Landshut, Germany  
Marital Status: Married to Ulrike Keim-Riederer, musician  
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Office: Department of Botany II  
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### ***EDUCATION***

Dr. rer. nat. habil., Technical University of Munich, 1990 (Plant Science)  
Dr. rer. nat., Technical University of Munich, 1984 (Biology)  
M. Sc. (Diploma), Technical University of Munich and Ludwig Maximilians University Munich, 1981  
(Plant Science, Plant Ecology, Animal Physiology, Biochemistry, Geology and Paleontology)

### ***AWARDS***

2011 Order of Merit of the Federal Republic of Germany  
2005 Academician of the Bavarian Academy of Science  
2004 Academician of the German National Academy of Science  
1985 Heinz Maier Leibnitz Award  
1999 Award of the Berlin Brandenburg Academy of Science

### ***PROFESSIONAL EXPERIENCE***

1999 Director of the "Institute Chemistry and Dynamics of the Geosphere", Forschungszentrum Jülich GmbH, and Full Professor at the University of Düsseldorf (offer declined)  
1994- Director of the Botanical Garden, University of Würzburg  
1994- Full Professor of Plant Sciences, Julius von Sachs Institute of Biosciences, University of Würzburg  
1992-1994 Associate Professor of Physiological Ecology, University of Kaiserslautern  
1990 Group Leader "Biological and physico-chemical principles of pesticide uptake", Plant Protection Center Monheim, Bayer CropScience (offer declined)  
1981-1991 Senior Lecturer and Researcher, Institute of Botany and Microbiology, Technical University of Munich

## ***PROFESSIONAL ACTIVITIES***

2012	Visiting Professorship for Senior International Scientists, Chinese Academy of Sciences
2010 -	Chairman of the Commission of Geological High Pressure Research, Bavarian Academy of Science
2009 -	Member of the Commission of the History of Science, Bavarian Academy of Science
2006 -2009	Dean of the Graduate School of Life Sciences (Excellence Initiative), University of Würzburg
2004 -2011	Member of the Academic Senate, University of Würzburg
2004 -	Member of the Commission of Ecology, Bavarian Academy of Science
2003 - 2012	Member of the Selection Committee for Humboldt Research Awards, Alexander-von-Humboldt-Stiftung
2002 – 2005	Member of the Board of Governors, “Rudolf Virchow Center for Experimental Biomedicine – DFG Center for Target Protein Research”, Würzburg
2002 – 2005	Member of the Scientific Advisory Board, GSF-Forschungszentrum für Umwelt und Gesundheit GmbH, Neuherberg
2001 - 2011	Coordinator and Principal Investigator of the Cooperative Research Centre (SFB) 567 “Mechanisms of Interspecific Interactions of Organisms”, Würzburg
2001 - 2004	Coordinator of the Bayerischer Forschungsverbund “Elevated UV Radiation in Bavaria, BayFORUV”
2000 – 2006	Principal Investigator and Member of the Coordinating Board, Cooperative Research Centre (SFB) 554 “Mechanisms and Evolution of Arthropod Behaviour: Brain – Individual – Social Group – Super-Organism”, Würzburg
1999 – 2003	Reviewer (Fachgutachter), German Science Foundation
1998 – 2002	Member of the Scientific Advisory Board, Institute for Scientific Film, Göttingen
1997 – 1999	Dean of the Faculty of Biology, University of Würzburg
1996 – 2000	Coordinator and Principal Investigator of the Cooperative Research Centre (SFB) 251m “Ecology, Physiology and Biochemistry of Plants and Animals under Stress”, Würzburg

## ***RESEARCH FOCUS***

Biology of plant surfaces with special regard to the interactions of plants with their abiotic and biotic environment.

Current projects:

- Chemical composition and molecular structure of the cuticular transport barrier;
- Genetics and biosynthesis of plant cuticular waxes;
- Mechanisms of uptake of organic compounds across plant surfaces;
- Ecophysiology of cuticular transpiration;
- Mechanisms and optimisation of the uptake of plant protection agents into aerial parts of plants;
- Cuticular signals between leaf surfaces and microbes (fungi, bacteria)

## ***INDUSTRIAL PARTNERSHIPS***

BASF Plant Protection, Germany

Bayer CropScience, Germany

Bayer Material Science, Germany

Novartis Plant Protection, Switzerland

Rhône-Poulenc Agro, France

Sandoz Agro, Switzerland

Syngenta Crop Science, Switzerland

**PUBLICATIONS (from the last 5 years)**

- Niemann S, Burghardt M, Popp C, and Riederer M.** Aqueous pathways dominate permeation of solutes across *Pisum sativum* seed coats and mediate solute transport via diffusion and bulk flow of water. *Plant Cell Environment*, doi: 10.1111/pce.12035, 2013
- Smirnova A, Leide J, and Riederer M.** Deficiency in a very-long-chain fatty acid  $\beta$ -ketoacyl-CoA synthase (SICER6) of tomato impairs microgametogenesis and causes floral organ fusion. *Plant Physiology*, 161: 196-209, 2013
- Hansjakob A, Riederer M, and Hildebrandt U.** Appressorium morphogenesis and cell cycle progression are linked in the grass powdery mildew fungus *Blumeria graminis*. *Fungal Biology* 116: 890-901, 2012.
- Reisberg E, Hildebrandt U, Riederer M, and Hentschel U.** Phyllosphere bacterial communities of trichome-bearing and trichomeless *Arabidopsis thaliana* leaves. *Antonie Van Leeuwenhoek International Journal of General and Molecular Microbiology* 101 (3):551-560, 2012.
- Hansjakob A, Riederer M, and Hildebrandt U.** Wax matters: absence of very-long-chain aldehydes from the leaf cuticular wax of the glossy11 mutant of maize compromises the prepenetration processes of *Blumeria graminis*. *Plant Pathology* 60 (6):1151-1161, 2011.
- Leide J, Hildebrandt U, Hartung W, Riederer M, and Vogg G.** Abscisic acid mediates the formation of a suberized stem scar tissue in tomato fruits. *New Phytologist*. 194 (2):402-415, 2012.
- Leide J, Hildebrandt U, Vogg G, Riederer M.** 2011. The positional sterile (ps) mutation affects cuticular transpiration and wax biosynthesis of tomato fruits. *Journal of Plant Physiology* **168**, 871-877.
- Arand K, Stock D, Burghardt M, Riederer M.** 2010. pH-dependent permeation of amino acids through isolated ivy cuticles is affected by cuticular water sorption and hydration shell size of the solute. *Journal of Experimental Botany* **61**, 3865-3873.
- Hansjakob A, Bischof S, Bringmann G, Riederer M, Hildebrandt U.** 2010. Very-long-chain aldehydes promote in vitro prepenetration processes of *Blumeria graminis* in a dose- and chain length-dependent manner. *New Phytologist* **188**, 1039-1054.
- Scholz I, Buckins M, Dolge L, Erlinghagen T, Weth A, Hischen F, Mayer J, Hoffmann S, Riederer M, Riedel M, Baumgartner W.** 2010. Slippery surfaces of pitcher plants: *Nepenthes* wax crystals minimize insect attachment via microscopic surface roughness. *Journal of Experimental Biology* **213**, 1115-1125.
- Riedel M, Riederer M, Becker D, Herran A, Kullaya A, Arana-López G, Peña-Rodríguez L, Billote N, Sniady V, Rohde W, Ritter E.** 2009. Cuticular wax composition in *Cocos nucifera* L.: physicochemical analysis of wax components and mapping of their QTLs onto the coconut molecular linkage map. *Tree Genetics Genomes* **5**, 53-69.
- Ringelmann A, Riedel M, Riederer M, Hildebrandt U.** 2009. Two sides of a leaf blade: *Blumeria graminis* needs chemical cues in cuticular waxes of *Lolium perenne* for germination and differentiation. *Planta* **230**, 95-105.
- Burghardt M, Burghardt A, Gall J, Rosenberger C, Riederer M.** 2008. Ecophysiological adaptations of water relations of *Teucrium chamaedrys* L. to the hot and dry climate of xeric limestone sites in Franconia (Southern Germany). *Flora* **203**, 3-13.
- Dragota S, Riederer M.** 2008. Comparative study on epicuticular leaf waxes of *Araucaria araucana*, *Agathis robusta* and *Wollemia nobilis* (Araucariaceae). *Australian Journal of Botany* **56**, 644-650.
- Zabka V, Stangl M, Bringmann G, Vogg G, Riederer M, Hildebrandt U.** 2008. Host surface properties affect prepenetration processes in the barley powdery mildew fungus. *New Phytologist* **177**, 251-263.
- Dragota S, Riederer M.** 2007. Epicuticular wax crystals of *Wollemia nobilis*: Morphology and chemical composition. *Annals of Botany* **100**, 225-231.
- Efetova M, Zeier J, Riederer M, Lee ChW, Stingl N, Mueller M, Hartung W, Hedrich R, Deeken R.** 2007. A central role of abscisic acid in drought stress protection of *Agrobacterium*-induced tumors on *Arabidopsis*. *Plant Physiology* **145**, 853-862.
- Leide J, Hildebrandt U, Reussing K, Riederer M, Vogg G.** 2007. The developmental pattern of tomato fruit wax accumulation and its impact on cuticular transpiration barrier properties: Effects of a deficiency in a beta-ketoacyl-coenzyme A synthase (LeCER6). *Plant Physiology* **144**, 1667-1679.
- Wissemann V, Riedel M, Riederer M.** 2007. Matroclinal inheritance of cuticular waxes in reciprocal hybrids of *Rosa* species, sect. *Caninae* (Rosaceae). *Plant Systematics and Evolution* **263**, 181-190.