

## Anita Roth-Nebelsick - Curriculum vitae

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### Personal information

Name:	Roth-Nebelsick, PD DR., Anita
Address:	Wiesweg. 39, 72119 Ammerbuch
Date of birth:	16.07.1962, in Bonn
Marital status:	married to Prof. Dr. James Henry Nebelsick, since 4.8.1995
Children:	Adrian Volker Louis Nebelsick, date of birth 20.9.1996

### Education: Schools

1968 - 1972	Evangelische Grundschule Mehlem
1972 - 1981	Amos-Comenius-Gymnasium, Bonn-Bad Godesberg
1981	Allgemeines Abitur

### Education: Universities

1981/82	University of Bielefeld, Study of Biology
1982 - 1984	University of Köln, Study of Biology
1984 - 1988	University of Bonn, Study of Biology
1988	University of Bonn, Diploma (Supervisors: Prof. Dr. A. Sievers and Prof. Dr. W. Alt, Institute of Botany)

### Dissertation, habilitation and venia legendi

October 89 – February 93	University of Tübingen, Topic "Numerical studies of the importance of water transport for stellar evolutions (Supervisors: Prof. Dr. V. Mosbrugger, University of Tübingen, and Prof. Dr. H.J. Neugebauer, University of Bonn)
February 2000	University of Tübingen, General topic: "The significance of flow processes for evolution and 'design' of organisms" Venia legendi for: Botany and Palaeontology

### Scientific career and posts

1990 – 1991	Scholarship from the State of Nordrhein-Westfalen (Graduiertenförderungsgesetz)
1991 – 1995	Research assistant with the SFB 230 ("Natural constructions", University of Stuttgart)
1996 – 1999	Scholarship from the German Science Foundation (Habilitation scholarship)
1996 – 1999	Habilitation project "The significance of flow processes for evolution and 'design' of organisms", at the University of Tübingen (including maternal leave)
1999 - 2009	Research assistant at the Institute for Geosciences, University of Tübingen
2004 – 2009	Head of project group "Functional morphology and biomimetics" at the Institute for Geosciences, University of Tübingen
Since 2009	Senior curator for Palaeobotany at the State Museum of Natural History, Stuttgart

## Important publications

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- KONRAD, W., AND A. ROTH-NEBELSICK. 2005. The significance of pit shape for hydraulic isolation of embolized conduits of vascular plants during novel refilling. *Journal of Biological Physics* 31: 57-71.
- KONRAD, W., AND A. ROTH-NEBELSICK. 2011. Sorting of droplets by migration on structured surfaces. *Beilstein Journal of Nanotechnology* 2: 215-221.
- KONRAD, W., M. EBNER, C. TRAISSER, AND A. ROTH-NEBELSICK. 2012. Leaf Surface Wettability and Implications for Drop Shedding and Evaporation from Forest Canopies. *Pure and Applied Geophysics* 169: 835-845.
- KONRAD, W., G. G. KATUL, A. ROTH-NEBELSICK, AND K. H. JENSEN. accepted. Xylem functioning, dysfunction and repair: A physical perspective and implications to phloem transport. *Tree physiology*. doi: [10.1093/treephys/tpy097](https://doi.org/10.1093/treephys/tpy097).
- KONRAD, W., C. APELTAUER, J. FRAUENDIENER, W. BARTHLOTT, AND A. ROTH-NEBELSICK. 2009. Applying methods from Differential Geometry to devise stable and persistent air layers attached to objects immersed in water. *Journal of Bionic Engineering* 6: 350-356.
- ROTH-NEBELSICK, A. 2001. Computer-based analysis of steady-state and transient heat transfer of small-sized leaves by free and mixed convection. *Plant, Cell and Environment* 24: 631-640.
- ROTH-NEBELSICK, A. 2007. Computer-based studies of diffusion through stomata of different architecture. *Annals of Botany* 100: 23-32.
- ROTH-NEBELSICK, A., AND W. KONRAD. 2017. Habitat responses of fossil plant species to palaeoclimate – Possible interference with CO<sub>2</sub>? *Palaeogeography, Palaeoclimatology, Palaeoecology* 467: 277-286.
- ROTH-NEBELSICK, A., M. EBNER, T. MIRANDA, V. GOTTSCHALK, D. VOIGT, S. GORB, T. STEGMAIER, et al. 2012. Leaf surface structures enable the endemic Namib desert grass *Stipagrostis sabulicola* to irrigate itself with fog water. *Journal of the Royal Society Interface* doi:10.1098/rsif.2011.0847 DOI.
- TÖTZKE, C., T. MIRANDA, W. KONRAD, J. GOUT, N. KARDJILOV, M. DAWSON, I. MANKE, AND A. ROTH-NEBELSICK. 2013. Visualization of embolism formation in the xylem of liana stems using neutron radiography. *Annals of Botany* 10.1093/aob/mct014 DOI.

## Miscellaneous

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- Member of the board of the “Competence network biomimetics” of the State of Baden-Württemberg
- University teaching (University of Tübingen and Hohenheim), including supervising of Bachelor, Master and PhD candidates
- Recent funded projects: Member of the Collaborative Research Center SFB-TRR 141 with two projects (A01 and B02, see <https://www.trr141.de/>)