

# Winfried Denk

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## EDUCATION AND TRAINING

1978 - 1981 Ludwig-Maximilians-Universität, Munich  
1981 - 1984 Eidgenoessische Technische Hochschule (ETH), Zurich, Switzerland  
1984 -1989 Cornell University, Ithaca, NY, USA  
1989 PhD in physics (1990)  
1989 - 1991 IBM Research Lab in Rueschlikon, Switzerland, postdoctoral fellow  
1991 - 1999 Bell Laboratories, Murray Hill NJ, independent research  
1999 - now Max-Planck Institute for Medical Research, Department of Biomedical Optics; Director  
2002 – now Professor, Faculty of Physics, University of Heidelberg

## SELECTED PUBLICATIONS

Stettler, D., H. Yamahachi, W. Li, W. Denk, and C. D. Gilbert (2006), Axons and synaptic boutons are highly dynamic in adult visual cortex, *Neuron* 49, 877-887.  
Kuhn, B., P. Fromherz and W. Denk (2004) High sensitivity of stark-shift voltage-sensing dyes by one- or two-photon excitation near the red spectral edge. *Biophys. J.* 87(1): 631-639.  
Hasan, M. T., R. W. Friedrich, T. Euler, M. E. Larkum, G. Giese, M. Both, J. Duebel, J. Waters, H. Bujard, O. Griesbeck, R. Y. Tsien, T. Nagai, A. Miyawaki and W. Denk (2004) Functional fluorescent Ca<sup>2+</sup> indicator proteins in transgenic mice under TET control. *Plos Biology*, 2(6): 763-775.  
Denk W. and H. Horstmann (2004) Serial block-face scanning electron microscopy to reconstruct three-dimensional tissue nanostructure. *PloS Biol.* 2(11): 1900-1909.  
Theer, P., M. T. Hasan and W. Denk (2003) Two-photon imaging to a depth of 1000  $\mu$ m in living brains by use of a Ti: Al<sub>2</sub>O<sub>3</sub> regenerative amplifier. *Opt. Lett.* 28(12): 1022-1024.  
Euler, T., P.D. Detwiler, and W. Denk (2002) Directionally selective calcium signals in dendrites of starburst amacrine cells. *Nature* 418: 845-852.  
Helmchen, F., M.S. Fee, D.W. Tank, and W. Denk (2001) A miniature head-mounted two-photon microscope high-resolution brain imaging in freely moving animals. *Neuron* 31: 903-912.  
Svoboda, K., W. Denk, D. Kleinfeld and D. W. Tank (1997). In vivo dendritic calcium dynamics in neocortical pyramidal neurons. *Nature*, 385(6612): 161-165.

## RESEARCH GRANTS

Title: Functional imaging of neural networks with non-linear optics  
Agency: Human Frontier Science Program  
Period of support: 2004-2007

## PRIZES AND AWARDS

1986 -1989 IBM Graduate Research Fellowship  
1998 Young Investigator Award of the Biophysical Society  
2000 Rank Prize for Opto-Electronics  
2003 Leibniz prize of the DFG (German Research Council)

2006 Kavli Lecture (Society for Neuroscience)