

## **Professor Dr. med. Dorothee Saur**



### **Personal Details:**

Date/Place of Birth: 18.09.1973 / Stuttgart  
Institute Address: Klinik und Poliklinik für Neurologie  
Universitätsklinikum Leipzig  
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Current Position: Professor for Neurology (W2) and  
Co-Chair of the Department of Neurology  
Expertise Stroke, Dementia, Cognitive Neurology,  
Neuroimaging

### **Academic Training:**

1993 – 1999 Studies in Medicine, Friedrich-Schiller-Universität Jena

### **Scientific Certificates:**

2001 Dr. med. in Medicine, Friedrich-Schiller-Universität Jena  
2010 Habilitation in Neurology, Albrecht-Ludwigs-Universität Freiburg

### **Professional Career:**

2000 – 2005 Resident in Neurology, Dept. of Neurology, University of Hamburg,  
Research Fellow at the Neurolmage Nord, University of Hamburg  
2006 Resident in Psychiatry, Dept. of Psychiatry, University of Freiburg  
2007 Board certification in Neurology  
2007 – 2009 Attending in Neurology, Dept. of Neurology, University of Freiburg  
2005 – 2009 Research Fellow at the Freiburg Brain Imaging, University of Freiburg  
2009 DAAD Research Scholar at the Cognitive Neurology and Alzheimer's  
Disease Center and the Aphasia and Neurolinguistics Research  
Laboratory, Northwestern University, Chicago/Evanston, USA  
2010 – 2015 Senior attending in Neurology, Dept. of Neurology, University of Leipzig  
2010 – present Group leader of the Language and Aphasia Lab, University of Leipzig  
2015 – present Professor for Neurology (W2) and Co-Chair of the Department of  
Neurology, University of Leipzig  
2016 – present Faculty member of the IMPRS Neurocom, Max Planck Institute of Cognitive  
and Brain Science Leipzig

### **Scientific Activities, Honors, Awards (selection):**

2009 DAAD Fellowship  
2011 Scholar Award of the James S. McDonnell Foundation (JSMF)  
“Understanding Human Cognition”  
2013 Scientific Secretary of the Annual Meeting of the German Society for  
Clinical Neurophysiology and Functional Brain Imaging (DGKN)  
2017 Scientific Secretary of the Annual Meeting of the German Society of  
Neurology (DGN)

## **Scientific Mission:**

My research focuses on understanding loss and recovery of brain functions after stroke using state of the art neuroimaging techniques. This includes functional and structural MRI, fibre tractography but also machine learning techniques to uncover mechanisms of brain dysfunction and regorganisation and to predict functional outcome after stroke. A particular focus in the future will be put on brain network modulation using non-invasive brain stimulation, real-time fMRI neurofeedback but also the analysis of large-scale stroke data bases to better understand structure-function relationships and therapy response after stroke.

## **10 Selected Publications:**

1. **Saur D**, Lange R, Baumgaertner A, Schraknepper V, Willmes K, Rijntjes M, Weiller C. Dynamics of language reorganization after stroke. *Brain* 2006; 129:1371-1384.  
DOI: 10.1093/brain/awl090
2. **Saur D**, Kreher BW, Schnell S, Kümmeler D, Kellmeyer P, Vry M-S, Umarova R, Musso M, Glauche V, Abel S, Huber W, Rijntjes M, Hennig J, Weiller C. Ventral and dorsal pathways for language. *Proc Natl Acad Sci U S A* 2008; 105(45): 18035-18040.  
DOI: 10.1073/pnas.0805234105
3. **Saur D**, Ronneberger O, Kümmeler D, Mader I, Weiller C, Klöppel, S. Early fMRI activations predict language outcome after stroke. *Brain* 2010; 133; 1252-1264.  
DOI: 10.1093/brain/awq021
4. Kümmeler D, Hartwigsen G, Kellmeyer P, Glauche V, Mader I, Klöppel S, Suchan J, Karnath HO, Weiller C, **Saur D**. Damage to ventral and dorsal language pathways in acute aphasia. *Brain* 2013; 2: 619-629.  
DOI: 10.1093/brain/aws354
5. Hartwigsen G, Weigel A, Schuschan P, Siebner HR, Weise D, Classen J, **Saur D**. Dissociating Parieto-Frontal Networks for Phonological and Semantic Word Decisions: A Condition-and-Perturb TMS Study. *Cereb Cortex* 2016; 26: 2590-25601.  
DOI: 10.1093/cercor/bhv092
6. Hartwigsen G, Bzdok D, Klein M, Wawrzyniak M, Stockert A, Wrede K, Classen C, **Saur D**. Rapid short-term reorganisation in the language network. *eLife* 2017; 6.  
DOI: 10.7554/eLife.25964
7. Hartwigsen G., **Saur, D**. Neuroimaging of stroke recovery from aphasia – Insights into plasticity of the human language network. *Neuroimage* 2019; 190: 14-31.  
DOI: 10.1016/j.neuroimage.2017.11.056
8. Klingbeil J, Wawrzyniak M, Stockert A, Karnath HO, **Saur D**. Hippocampal diaschisis contributes to anosognosia for hemiplegia: evidence from lesion network-symptom mapping. *Neuroimage*, 2020; 208: 116485.  
DOI: 10.1016/j.neuroimage.2019.116485
9. Stockert A, Wawrzyniak M, Klingbeil J, Wrede K, Kümmeler D, Hartwigsen G, Kaller CP, Weiller C, **Saur D**. Dynamics of language reorganization after left temporo-parietal and frontal stroke. *Brain* 2020; 143(3) 844-861.  
DOI: 10.1093/brain/awaa023
10. Hartwigsen G, Stockert A, Charpentier L, Wawrzyniak M, Klingbeil J, Wrede K, Obrig H, **Saur D**. Short-term modulation of the lesioned language network. *Elife* 2020; 9.  
DOI: 10.7554/eLife.54277