

Andreas Horn

MD/PhD, *16.12.1984; male

Senior Research Fellow

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EDUCATION

11/2011 State exam, Approbation in Medicine, Albert-Ludwig University Freiburg

ACADEMIC DEGREES

12/2016 Doctoral thesis, (MD/PhD), Charité – University Medicine, Berlin, summa cum laude
09/2012 Doctoral thesis, (Dr. med.), Albert-Ludwig University Freiburg, magna cum laude

PROFESSIONAL CAREER

since 2017 Research fellowship with Prof. A. Kühn at Movement Disorders and Neuromodulation Unit, Charité – University Medicine Berlin

2016 – 2017 Research fellowship with Prof. M. Fox at Harvard Medical School / Beth Israel Deaconess Medical Center, Boston, MA, USA

2013 – 2016 Research fellowship with Prof. A. Kühn at Movement Disorders and Neuromodulation Unit; Residency in Neurology at Department of Neurology, Charité – University Medicine

2012 – 2014 Research fellowship with Profs. R. Hertwig and F. Blankenburg at Center for Adaptive Rationality, Max Planck Institute for Human Development, Berlin

2011 – 2012 Research fellowship with Prof. F. Blankenburg at Bernstein-Center for Computational Neuroscience, Berlin

Since 2012 Launch of MPS-Medizinische Planungssysteme GmbH. MPS-GmbH is a manufacturer of software for effective chemotherapy management in cooperation with University Hospital Freiburg. Total funds raised: 645.000 Euro (EXIST-excellence, Young Innovators, KMU-innovativ, other funds).

2008 – 2009 Doctorate (Dr. med.) with Prof. Weiller at Department of Neurology, University Hospital Freiburg

ABROAD STUDIES

2016 – 2017 Harvard Medical School; Berenson-Allen Center for Noninvasive Brain Stimulation, Laboratory for Brain Network Imaging and Modulation, Boston, USA. Postdoctoral fellowship.

2007 – 2008 Universidad Complutense de Madrid; Hospital Clínico San Carlos, Madrid, Spain. Year of abroad studies.

2010 University of South Florida; Tampa General Hospital und Moffitts Cancer Center, Tampa, FL, USA. Clinical rotation (internal medicine).

2010 Université Paris Descartes – Paris V; Pôle Arcole, Hôtel-Dieu, Paris, France. Clinical rotation (visceral and thoracic surgery).

AWARDS and HONORS

2017 Robert-Koch-Preis, Charité – University Medicine
 2017 Paper of the Months August & November, Charité – University Medicine / CSB
 2016 Harvard Radcliffe Institute Academic Ventures Grant
 2015 Thiemann Fellowship, Prof. Dr. Klaus Thiemann-Stiftung
 2015 Max Rubner Innovation Award, Stiftung Charité
 2015 Junior Clinical Scientist Stipend, Berlin Institute of Health
 2015 Movement Disorders Society Travel Grant

PUBLICATIONS

1. **Horn A**, Reich M, Vorwerk J, Li N, Fang Q, Schmitz-Hübsch T, Nickl R, Schneider G-H, Kupsch A, Volkmann V, Kühn AA, Fox M (2017). Connectivity predicts deep brain stimulation outcome in Parkinson's disease. *Annals of Neurology*. (IF: 10.0)
2. Weigand A*, **Horn A***, Caballero R, Cooke D, Stern AP, Taylor SF, Press D, Pascual-Leone A, Fox MD (2017) Prospective validation that subgenual connectivity predicts antidepressant efficacy of transcranial magnetic stimulation sites. *Biological Psychiatry*. (IF: 11.2)
3. Neumann W-J*, **Horn A***, Ewert S, Huebl J, Brücke C, Slentz C, Schneider G-H, Kühn AA (2017) Local theta activity in the human internal pallidum correlates with dystonic symptoms in patients with cervical dystonia. *Annals of Neurology*. (IF: 10.0)
4. Darby R, **Horn A**, Cushman F, Fox MD (2017) Lesion network localization of criminal behavior. *PNAS*. (IF: 9.4)
5. Ewert S, Plettig P, Chakravarty MM, Kühn AA, **Horn A** (2017). Toward defining deep brain stimulation targets in MNI space: A subcortical atlas based on multimodal MRI, histology and structural connectivity. *NeuroImage*. (IF: 6.1)
6. **Horn A**, Neumann W-J, Degen K, Schneider G-H, & Kühn AA (2017). Toward an electrophysiological "sweet spot" for deep brain stimulation in the subthalamic nucleus. *Human Brain Mapping*. (IF: 6.0)
7. **Horn A**, Kühn AA, Merkl A, Shih L, Alterman R, Fox M (2017) Probabilistic conversion of neurosurgical DBS electrode coordinates into MNI space. *NeuroImage*. (IF: 6.1)
8. **Horn A**, Kühn, AA (2015) Lead-DBS: A toolbox for deep brain stimulation electrode localizations and visualizations. *NeuroImage* (IF: 6.1)
9. **Horn A**, Blankenburg F (2016). Toward a standardized structural-functional group connectome in MNI space. *NeuroImage* (IF: 6.1)
10. **Horn A**, Ostwald D, Reisert M, Blankenburg F (2014). The structural–functional connectome and the default mode network of the human brain. *NeuroImage* (IF: 6.1)
11. Accolla EA*, **Horn A***, Herrojo-Ruiz M, Neumann W-J, Kühn AA (2017). Reply: Temporo-spatial distribution of subthalamic oscillatory activity. *Brain* (IF: 10.1)
12. **Horn A**, Kipp L, Meola A, Kühn AA, Leithner C (2016) Stroke mimicking thalamotomy – cessation of tremor following ventrolateral thalamic ischemia. *Neurology* (IF: 8.3)
13. **Horn A**, Neumann W-J, Kühn AA (2016) Blick in die Forschung: Individualisierte Parkinson-Therapie mit tiefer Hirnstimulation. *Deutsches Ärzteblatt* (IF: 3.7)
14. Accolla EA, Herrojo Ruiz M, **Horn A**, Schneider GH, Schmitz-Hübsch T, Draganski B, Kühn AA (2016) Brain networks modulated by subthalamic nucleus deep brain stimulation. *Brain* (IF: 10.1)

15. Neumann WJ, Jha A, Bock A, Huebl J, **Horn A**, Schneider GH, Sander TH, Litvak V, Kühn AA (2015) Cortico-pallidal oscillatory connectivity in patients with dystonia. *Brain* (IF: 10.1)
16. Barow E, Neumann WJ, Brücke C, Huebl J, **Horn A**, Brown P, Krauss JK, Schneider GH, Kühn AA (2014) Deep brain stimulation suppresses pallidal low frequency activity in patients with phasic dystonic movements. *Brain* (IF: 10.1)
17. Merkl A, Neumann WJ, Huebl J, Aust S, **Horn A**, Krauss JK, Dziobek I, Kuhn J, Schneider GH, Bajbouj M, Kühn AA (2016) Modulation of Beta-Band Activity in the Subgenual Anterior Cingulate Cortex during Emotional Empathy in Treatment-Resistant Depression. *Cereb Cortex* (IF: 8.3)
18. Schroll H, **Horn A**, Huchzermeyer C, Brücke C, Lütjens G, Krauss J, Schneider G-H, Kühn A, Hamker F (2015) Differential contributions of the globus pallidus and ventral thalamus to stimulus-response learning in humans. *NeuroImage* (IF: 6.1)
19. Musso M, Weiller C, **Horn A**, Glauche V, Umarova R, Hennig J, Schneider A, Rijntjes M (2015) A Single Dual-Stream Framework for Syntactic Computations in Music and Language. *NeuroImage* (IF: 6.1)
20. Tiedt H O, Ehlen F, Krugel LK, **Horn A**, Kühn AA, Klostermann F (2016) Subcortical Roles in Lexical Task Processing: Inferences from Thalamic and Subthalamic Event-Related Potentials. *Human Brain Mapping* (IF: 6.0)
21. van Wijk BCM, Pogosyan A, Hariz MI, Akram H, Foltynie T, Limousin P, **Horn A**, Ewert S, Brown P, Litvak V (2017). Localization of beta and high-frequency oscillations within the subthalamic nucleus region. *NeuroImage. Clinical*
22. Merkl A, Aust S, Schneider G-H, Visser-Vandewalle V, **Horn A**, Kühn AA, Kuhn J, Bajbouj, M (2017) Deep Brain Stimulation of the Subcallosal Cingulate Gyrus in Patients with Treatment-Resistant Depression: a double-blinded randomized controlled study and long-term follow-up in eight patients. *Journal of Affective Disorders*. (IF: 3.5)
23. Krause P, Brüggemann N, Völzmann S, **Horn A**, Kupsch A, Schneider G-H, Klein C, Kühn A (2015) Long-term improvement of dystonia after pallidal Deep Brain Stimulation in three members of a DYT6 family. *Journal of Neurology*. (IF: 3.3)
24. Krause P, Lauritsch K, Lipp A, **Horn A**, Weschke B, Kupsch A, Kiening K, Schneider G-H, Kühn A (2016) Long-term results of deep brain stimulation in a cohort of eight children with isolated dystonia. *Journal of Neurology*. (IF: 3.3)
25. Hohlefeld F, Ehlen F, Tiedt HO, Krugel LK, **Horn A**, Kühn AA, Curio G, Klostermann F, Nikulin VV (2015) Correlation between cortical and subcortical neural dynamics on multiple time scales in Parkinson's disease. *Neuroscience*. (IF: 3.3)
26. Hohlefeld, FU, Ewald A, Ehlen F, Tiedt HO, Horn A, Kühn AA, Curio G, Klostermann F, Nikulin VV (2017) Neural correlates of lexical decisions in Parkinson's Disease revealed with multivariate extraction of cortico-subthalamic interactions. *Clinical Neurophysiology*. (IF: 3.0)
27. Neumann W-J, Staub-Bartelt F, **Horn A**, Schanda J, Schneider G-H, Brown P, Kühn AA (2017) Long term correlation of subthalamic beta band activity with motor impairment in patients with Parkinson's disease. *Clinical Neurophysiology*. (IF: 3.0)
28. Neumann WJ, Staub F, **Horn A**, Schanda J, Schneider G-H, Brown P, Kühn AA (2014) Deep brain recordings using an implanted pulse generator in Parkinson's disease. *Neuromodulation*, 19(1), 20–24. (IF: 2.7)

29. Baldermann JC, Hardenacke K, Hu X, Köster P, Horn A, Freund H-J, Zilles K, Sturm V, Visser-Vandewalle V, Jessen F, Maintz D, Kuhn J (2017) Neuroanatomical Characteristics Associated With Response to Deep Brain Stimulation of the Nucleus Basalis of Meynert for Alzheimer’s Disease. *Neuromodulation* (IF: 2.7)
30. Ehlen F, Vonberg I, Tiedt H O, **Horn A**, Fromm O, Kühn AA, Klostermann F (2016) Thalamic Deep Brain Stimulation Decelerates Automatic Lexical Activation. *Brain and Cognition* (IF: 2.39)
31. **Horn A**, (2015). A structural group-connectome in standard stereotactic (MNI) space. *Data in Brief*.
32. Seo S, Mohr J, Li N, **Horn A**, Obermayer K (2015) Incremental Pairwise Clustering for Large Proximity Matrices. *IJCNN 2015*
33. **Horn A**, Greene JN (2012) Successful Treatment of Progressive Multifocal Leukoencephalopathy with Interferon. *Infectious Diseases in Clinical Practice*.
34. Brücke C, Ebner S, **Horn A**, Gärtner J, Huppke P, Kupsch A, Schneider G-H, Kühn AA (2014) Failure of pallidal deep brain stimulation in a case of rapid-onset dystonia parkinsonism (DYT12). *Movement Disorders – Clinical practice*.

* equal contribution

INVITED TALKS

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| 11/02/2012 | 'Global and Probabilistic Fibretracking in Human Connectomics'
Structural Brain Connectivity: Diffusion Imaging - State of the Art and Beyond,
Methodological Workshop, Humboldt-Universität, Berlin |
| 11/11/2013 | 'The structural-functional connectome and the default network of the
human brain' – Humboldt University Berlin, Walter lab |
| 11/17/2014 | 'The human connectome: structure-function agreement and task-
dependent functional connectivity' – Resting-State fMRI talk series,
Freiburg Brain Imaging, Albert-Ludwigs-Universität Freiburg |
| 02/27/2015 | 'How does an individual brain fit an atlas? Implications for the application
in Deep Brain Stimulation in Cologne and Berlin.' – 2nd International
Symposium of the Clinical Research Group 219 |
| 05/26/2016 | 'New imaging methods to define Deep Brain Stimulation electrode
locations.' – Institut de Neurosciences Grenoble, France, Equipe Fonctions
Cérébrales et Neuromodulation, David Lab |
| 07/19/2016 | 'Toward Connectomic Deep Brain Stimulation.' – Centre de recherche,
IUGM, Montréal, Canada, Bellec Lab |
| 03/08/2017 | 'New horizons in DBS computer simulations.' – Tufts University, Boston, MA |
| 05/24/2017 | 'Predicting patient outcome based on computer simulations in DBS.' – ICM
Paris, 4th M-DBS workshop (Models for DBS) |
| 04/23/2017 | 'Probabilistic conversion of neurosurgical DBS electrode coordinates into MNI
space.' – American Academy of Neurology, Annual Meeting, Boston, MA |
| 07/04/2017 | 'Lead-DBS: Current applications and Outlook' – Rostock University,
Concluding Workshop of GRK 1505 welisa |

SCIENTIFIC REVIEWS

Trends in Biotechnology	(IF: 12.1)
Biological Psychiatry	(IF: 11.4)
Annals of Neurology	(IF: 10.0)
Human Brain Mapping	(IF: 6.0)
NeuroImage	(IF: 5.9)

NeuroImage: Clinical	(IF: 4.3)
Frontiers in Neurology	(IF: 3.5)
Royal Academy Open Science	(IF: 2.3)
Frontiers in Systems Neuroscience	

MEDIA COVERAGE

TV	SWR Odysso, WDR Lokalzeit Düsseldorf
Radio	hr-iNFO Fit und Gesund, HR1 Morgenmagazin
Print	Nature Reviews Neurology (Editorial "Research Highlights"), Focus (Coverstory), Frankfurter Rundschau, Forschung & Lehre, Rheinische Post, Psychologie Heute
Web	Der Spiegel, Max-Planck-Society (Front page), Doccheck, Der Standard, Discovery News



Berlin, December 29th 2017, Andreas Horn