

BORIS C. BERNHARDT, PHD

CURRENT AFFILIATION AND ADDRESS

McConnell Brain Imaging Centre
Montreal Neurological Institute and Hospital, McGill University
3801 University Street, Montreal, Quebec, H3A 2B4, Canada
boris@bic.mni.mcgill.ca

▶<http://www.bic.mni.mcgill.ca/~boris>
▶[scholar](#)

MARITAL AND LEGAL STATUS

Married, 2 children
German citizen (born December 23 1981)
Canadian permanent resident (since January 6 2015)

RESEARCH INTERESTS

My methodological approach combines structural and functional neuroimaging, multivariate statistics, and machine-learning in healthy and diseased populations, in order to predict cognitive, affective and clinical outcomes.

My previous research at the *Neuro* focussed on studying brain anomalies in a large patient cohorts with epilepsy, in whom a multi-disciplinary clinical assessment lends unique opportunities to validate neuroimaging techniques.

I am involved in the design, acquisition, and analysis of a large-scale longitudinal study that assesses effects of socio-cognitive and affective training on brain networks, cognition, and well-being (<http://resource-project.org>) and have conducted multi-centric analyses of structural network alterations in autism.

ACADEMIC WORK EXPERIENCE

Assistant Professor (appointed 07/2016)
Montreal Neurological Institute and Hospital [▶web](#)
McGill University, Montreal, Quebec, Canada

Postdoc with Andrea Bernasconi, MD (2013-2016)
Montreal Neurological Institute and Hospital [▶web](#)
McGill University, Montreal, Quebec, Canada

Postdoc with Tania Singer, Director (2011-2015)
Max Planck Institute of Human Cognitive and Brain Sciences [▶web](#)
Leipzig, Germany

EDUCATION

PhD. Neuroscience (09.2006-01.2011)
Thesis: MRI-based cortical thickness analysis in temporal lobe epilepsy.

Montreal Neurological Institute and Hospital [▶web](#)
McGill University, Montreal, Quebec, Canada
Supervised by Neda Ladbon-Bernasconi, MD PhD

awarded with an
Esther Cushing Dissertation Fellowship
from the faculty of Medicine, McGill University

Visiting student (2006)
Douglas Hospital, McGill University, Montreal, Quebec, Canada [▶web](#)
Supervised by Jorge Armony, PhD

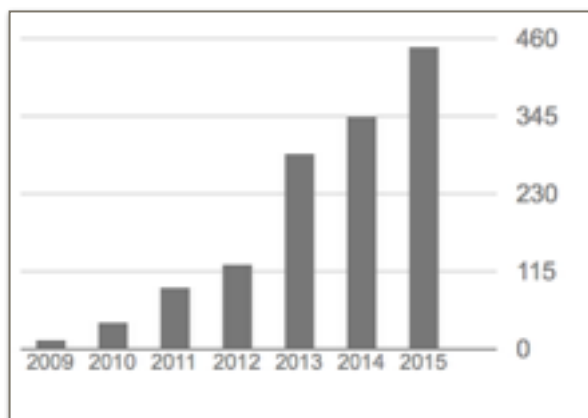
B.Sc. Cognitive Science (09.2002-06.2006)
Thesis: How disparity fits into the statistics
and neural processing of natural scenes: An EEG study

awarded with a
Distinction
from the University of Osnabrueck

Collateral examinations in *neuroinformatics, artificial intelligence, computational linguistics, neurobiology, and philosophy of mind*, passed with excellent standing.

Institute of Cognitive Science [▶web](#)
University of Osnabrück, Osnabrück, Germany
Supervised by Peter Koenig, PhD

PUBLICATIONS



36 peer-reviewed publications , 5 book chapters, 58 abstracts
Average Impact Factor (IF): 8.3
20 first author publications, 1 senior author paper, 7 second author publications

1448 citations
h-index: 18 (i.e., 18 papers have at least 18 citations)
i10-index: 24 (i.e., 24 papers have at least 10 citations)
[December 27, 2015]

[scholar](#)

COMPLETE LIST OF PEER-REVIEWED ARTICLES

36. S.L. Valk, **B.C. Bernhardt**, A. Boeckler, M. Trautwein, P. Kanske, T. Singer (2016) Socio-cognitive phenotypes differentially modulate large-scale structural covariance networks. *Cerebral Cortex, in press*. (IF: 8.67)
35. **B.C. Bernhardt***, M. Liu*, N. Bernasconi, A. Bernasconi (2016). Grey matter structural compromise is equally distributed in left and right temporal lobe epilepsy. *Human Brain Mapping, in press*. (*joint first co-authorship) (IF: 5.92)
34. M. Goubran, **B.C. Bernhardt**, D. Cantor-Rivera, J. Lau, C. Blinston, S. de Ribaupierre, J. Burneo, S. Mirsattari, D. Steven, A. Parrent, A. Bernasconi, N. Bernasconi, T. Peters, A. Khan (2015) In-vivo MRI signatures of hippocampal subfield pathology in intractable epilepsy. *Human Brain Mapping, in press* (IF: 5.92)
33. **B.C. Bernhardt***, J. Kulaga-Yoskovitz*, S. Hong, T. Mansi, K. Liang, A. van der Kouve, J. Smallwood, A. Bernasconi, N. Bernasconi (2015) Multi-contrast and submillimetric 3T hippocampal subfield segmentation protocol and dataset. *Scientific data, in press* (*joint first co-authorship)

An open-access MRI dataset, also hosted on the nitric neuroimaging repository

<http://www.nitrc.org/projects/mni-hisub25>
and the 1000 functional connectomes / INDI site

32. **B.C Bernhardt***, S. Hong*, D. Schrader, N. Bernasconi, A. Bernasconi (2015) MRI morphometry reveals differential neocortical damage in dysplasia-related extratemporal epilepsy. *Neurology, in press (IF 8.4)*. (*joint first co-authorship)

31. **B.C. Bernhardt**, N. Bernasconi, S. Hong, S. Dery, A. Bernasconi (2015) Subregional mesiotemporal network regularization and fragmentation in temporal lobe epilepsy. *Cerebral Cortex. (IF: 8.6)*

30. S. Hong, **B.C. Bernhardt**, B. Caldairou, M. Liu, N. Bernasconi, A. Bernasconi (2015) MRI-based subtype prediction of epileptogenic cortical malformations. *Medical Image Processing and Computer-Assisted Intervention. in press.*

29. **B.C Bernhardt**, S. Hong, A. Bernasconi, N. Bernasconi (2015) Magnetic resonance imaging pattern learning in temporal lobe epilepsy: patient classification and prognostics. *Annals of Neurology, in press. (IF: 11.9)* [pubmed](#)

28. S.L. Valk, A. DiMartino, M. Milham, **B.C. Bernhardt** (2015) Multi-center mapping of structural network alterations in autism. *Human Brain Mapping, in press. (IF: 6.92)*

27. **B.C. Bernhardt**, L.Bonilha, D.W. Gross (2015) Network analysis for a network disorder: the emerging role of graph theory in the study of epilepsy. *Epilepsy and Behaviour, in press. (IF: 2.18)*

Received an Editorial Commentary J.Tracy (2015) Editorial on "Network Analysis for a Network Disorder: The emerging role of graph theory in the study of epilepsy, by Bernhardt et al. (this issue)". Epilepsy & Behaviour 50:160-1

Highlighted by Cover Art.

26. N. Steinbeis, **B.C. Bernhardt**, T. Singer (2014) Age-related differences in function and structure of rSMG and reduced functional connectivity with DLPFC explains heightened emotional egocentricity bias in childhood. *Social Cognitive and Affective Neuroscience, 10(2): 302-10. (IF: 5.9)* [pubmed](#)

25. S. Hong, H. Kim, N. Bernasconi, **B.C. Bernhardt**, A. Bernasconi (2014) Automatic detection of cortical dysplasia type II in MRI-negative epilepsy. *Neurology, 83(1):48-55. (IF: 8.3)* [pubmed](#)

Received an Editorial Commentary: S. Wiebe (2014) has automated detection of cortical dysplasias come of age? Neurology. 83(1):54.

24. A. Tusche, J. Smallwood, **B.C. Bernhardt**, T. Singer (2014) Classifying the wandering mind: revealing the affective content of thoughts during task-free rest periods. *NeuroImage, 97:107-16. (IF: 6.1)* [pubmed](#)

23. **B.C. Bernhardt**, J. Smallwood, A. Tusche, F.J.M. Ruby, H.G. Engen, T. Singer (2014) Medial prefrontal and anterior cingulate cortical thickness predicts shared individual differences in self-generated thought and temporal discounting. *NeuroImage*, 15;90:290-7. (IF: 6.1) [pubmed](#)
22. H. Kim, **B.C. Bernhardt**, Y. Kulaga-Yoskovich, B. Caldairou, A. Bernasconi, N. Bernasconi (2014). Multi-variate hippocampal subfield analysis of local intensity and volume: application to temporal lobe epilepsy. *Medical Image Processing and Computer-Assisted Intervention*. Golland P. et al. (Eds.), 8674: 170-178. [pubmed](#)
21. L. Caciagli, **B.C. Bernhardt**, S. Hong, A. Bernasconi, N. Bernasconi (2014) Functional network alterations and their structural substrate. *Frontiers of Human Neuroscience*, 8:411. (IF: 2.9) [pubmed](#)
20. **B.C. Bernhardt**, S. Valk, G. Silani, G. Bird, U. Frith, T. Singer (2013) Selective disruption of socio-cognitive structural networks in autism and alexithymia. *Cerebral Cortex*, 24(12):3258-67 (IF: 8.6) [pubmed](#)
19. Z. Zhang, W. Liao, **B. Bernhardt**, Z. Wang, K. Sun, F. Yang, Y. Liu, G. Lu (2014) Brain iron redistribution in mesial temporal lobe epilepsy: a susceptibility-weighted magnetic resonance imaging study. *BMC Neuroscience*, 15(1):117. (IF: 2.9) [pubmed](#)
18. **B.C. Bernhardt**, O.M. Klimecki, S. Leiberg, T. Singer (2013) Structural covariance networks of the dorsal anterior insula predict females' individual differences in empathic responding. *Cerebral Cortex*, 24(8):2189-98. (IF: 8.6) [pubmed](#)
17. **B.C. Bernhardt**, S.J. Hong, A. Bernasconi, N. Bernasconi (2013) Imaging structural and functional brain networks in temporal lobe epilepsy. *Frontiers in Human Neuroscience*, 7:624. (IF: 2.9) [pubmed](#)
16. **B.C. Bernhardt**, H. Kim, N. Bernasconi (2013) Patterns of subregional mesiotemporal disease progression in temporal lobe epilepsy. *Neurology*, 81(21): 1840-7. (IF: 8.3) [pubmed](#)
15. N. Steinbeis, **B.C. Bernhardt**, T. Singer (2012) Impulse control and underlying functions of the left DLPFC mediate age-related and age-independent individual differences in strategic social behavior. *Neuron*, 73(5): 1040-51. (IF: 15.8) [pubmed](#)
- Received an Editorial Commentary: A. Makwana, T. Hare (2012) Stop and be fair: DLPFC development contributes to social decision making. Neuron. 73(5) 859-861.*
14. **B.C. Bernhardt**, T. Singer (2012). The neural basis of empathy. *Annual Reviews of Neuroscience*, 35: 1-23. (IF: 22.6) [pubmed](#)

13. Concha, H. Kim, A. Bernasconi, **B.C. Bernhardt**, N. Bernasconi (2012). Spatial patterns of water diffusion along white matter tracts in temporal lobe epilepsy. *Neurology*, 79(5): 455-62. (IF: 8.3) [pubmed](#)

Received an Editorial Commentary: C.L. Harden (2013) Is DTI increasing the connectivity between the magnet suite and the clinic? Epilepsy Currents. 13(2): pp. 90–92.

12. H. Kim, M. Chupin, O. Colliot, B.C. **Bernhardt**, N. Bernasconi, A. Bernasconi. (2012) Automatic hippocampal segmentation in temporal lobe epilepsy: impact for developmental abnormalities. *Neuroimage*, 59(4):3178-86. (IF: 6.1) [pubmed](#)

11. **B.C. Bernhardt**, N. Bernasconi, H. Kim, A. Bernasconi. (2012) Mapping thalamo-cortical network pathology in temporal lobe epilepsy. *Neurology*, 78(2): 129-36. (IF: 8.3) [pubmed](#)

Received an Editorial Commentary: L.E. Jehi (2012) Cortico-thalamic connections and temporal lobe epilepsy: an evolving story. Epilepsy Currents. 12(5): 203-204.

10. N. Kemmotsu, H.M. Girard, **B.C. Bernhardt**, L. Bonilha, J.J. Lin, E.S. Tecoma, V.J. Iragui, D.J. Hagler, E. Halgren, C.R. McDonald (2011) MRI analysis in temporal lobe epilepsy: cortical thinning and white matter disruptions are related to side of seizure onset. *Epilepsia*, 52(12): 2257-66. (IF: 4.6) [pubmed](#)

9. **B.C. Bernhardt**, Z. Chen, Y. He, A.C. Evans, N. Bernasconi (2011) Graph-theoretical analysis reveals disrupted small-world organization of cortical networks in temporal lobe epilepsy. *Cerebral Cortex*, 21:2147-57. (IF: 8.3) [pubmed](#)

8. Bernasconi, N. Bernasconi, **B.C. Bernhardt**, D.V. Schrader (2011) Advances in MR imaging for 'cryptogenic' epilepsies. *Nature Reviews Neurology*, 7(2): 99-108. (IF: 15.5) [pubmed](#)

7. **B.C. Bernhardt***, **N.L Voets***, H. Kim, U. Yoon, N. Bernasconi (2010) Increased temporo-limbic cortical folding complexity in temporal lobe epilepsy. *Neurology*, 76(2):138-144 (IF: 8.3) [pubmed](#) (*joint first co-authorship)

Received an Editorial Commentary: S.N. Roper, B.D. Moseley, G.D. Cascino (2010) Do subtle cortical structure changes indicate a developmental basis for temporal lobe epilepsy? Neurology. 76(2):117-8.

6. **B.C. Bernhardt**, N. Bernasconi, L. Concha, A. Bernasconi (2010) Cortical thickness analysis in temporal lobe epilepsy: reproducibility and relation to outcome. *Neurology*, 74(22): 1776-84. (IF: 8.3) [pubmed](#)

Received an Editorial Commentary: J.W. Miller (2010) Teasing out the Anatomy of mesial temporal lobe epilepsy. Epilepsy Currents. 11(5): 145–146.

5. N. Bernasconi, **B.C. Bernhardt** (2010) Temporal lobe epilepsy is a progressive disorder. *Nature Reviews Neurology*, 6(3):1. (IF: 15.5) [pubmed](#)

4. **B.C. Bernhardt**, D.A. Rozen, K.J. Worsley, A.C. Evans, N. Bernasconi, A. Bernasconi (2009) Thalamo-cortical network pathology in idiopathic generalized epilepsy: insights from MRI-based morphometric correlation analysis. *NeuroImage*, 46(2):373-81. (IF: 6.1) [pubmed](#)

3. **B.C. Bernhardt**, K.J. Worsley, H.Kim, A.C. Evans, A. Bernasconi, N. Bernasconi (2009) Longitudinal and cross-sectional analysis of atrophy in pharmaco-resistant temporal lobe epilepsy. *Neurology*, 72(20): 1747-54. (IF: 8.3) [pubmed](#)

Received an Editorial Commentary: G.D. Cascino (2009) Temporal lobe epilepsy is a progressive neurologic disorder: Time means neurons! Neurology. 72(20):1718-9.

In addition, it figured among the manuscripts highlighted by the Journal in the same issue.

Received an Editorial Commentary: R. Kuzniecky, T. Thesen, O. Devinsky (2009) Epilepsy: is localization-related epilepsy a progressive disorder? Nat Rev Neurol. 5(7):356-7.

2. **B.C. Bernhardt**, K.J. Worsley, P. Besson, L. Concha, J.P. Lerch, A.C. Evans, N. Bernasconi (2008) Mapping limbic network organization in temporal lobe epilepsy using morphometric correlations: insights on the relation between mesiotemporal connectivity and cortical atrophy. *NeuroImage*, 42(2): 515-24. (IF: 6.1) [pubmed](#)

1. H. Kim, N. Bernasconi, **B.C. Bernhardt**, O. Colliot, A. Bernasconi (2008) Temporal lobe epilepsy is associated with a single-branch collateral sulcus. *Neurology*, 70(22 Pt 2): 2159-65. (IF: 8.3) [pubmed](#)

BOOK CHAPTERS

B.C. Bernhardt, S.L. Valk, A. Di Martino, G. Wallace (2015) Neuroimaging-based phenotyping of the autism spectrum. In: Krach, Paulus, Woehr (Eds.) Social behavior from rodents to humans: neural foundations and clinical implications. Springer, *accepted*.

L. Caciagli, **B.C. Bernhardt**, N. Bernasconi (2015) Network modeling using structural and functional imaging in epilepsy. In: Bernasconi, Bernasconi, Koepp (Eds.) Imaging Biomarkers in epilepsy. Cambridge University Press, *submitted*.

J. Smallwood, D.S. Margulies **B.C. Bernhardt**, B. Jeffreys (2015) Investigating the elements of thought: Towards a component process account of spontaneous cognition. In: Handbook of spontaneous thought, *submitted*

S. Hong, M. Liu, **B.C. Bernhardt**, A. Bernasconi (2015) Computational neuroanatomy of epilepsy. In: Bernasconi, Bernasconi, Koepp (Eds.) Imaging Biomarkers in epilepsy. Cambridge University Press, *submitted*.

B.C. Bernhardt, A.C. Coan, L. Caciagli, N. Bernasconi (2015) Tracking disease progression in epilepsy. In: Bernasconi, Bernasconi, Koepp (Eds.) Imaging Biomarkers in epilepsy. Cambridge University Press, *submitted*.

SOFTWARE

I helped with the implementation and provided test datasets for **SurfStat**
<http://www.math.mcgill.ca/keith/surfstat/>,

SurfStat is an open-source Matlab toolbox for the multivariate analysis of structural MRI data developed by Keith Worsley. It has been used in more than 100 publications.

I have provided support for study design and analysis to many users at the Neuro and elsewhere.

DATASETS

I am joint first co-author of a recently released open-access dataset (<http://www.nitrc.org/projects/mni-hisub25>), which shares manual hippocampal subfield segmentations, high-quality MRI data, and a reliable segmentation protocol description with the neuroimaging and neuroanatomy research communities.

For details, please see:

B.C. Bernhardt*, J. Kulaga-Yoskovitz*, S. Hong, T. Mansi, K. Liang, A. van der Kouve, J. Smallwood, A. Bernasconi, N. Bernasconi (2015) Multi-contrast and submillimetric 3T hippocampal subfield segmentation protocol and dataset. *Scientific data, in press*

ACADEMIC TALKS

2016. *upcoming*. Brain Imaging Center Lecture. Montreal Neurological Institute and Hospital, McGill University, Montreal, QC, Canada

2015. *Holism vs reductionism in the study of focal epilepsy*. Invited talk for the neuroimaging special interest group at the 69th Annual Meeting of the American Epilepsy Society, Philadelphia, PA.

2015. *MRI-based hippocampal subfield analysis accurately predicts surgical outcome*. Platform presentation at 32th Annual International Epilepsy Congress, Istanbul, Turkey.

2015. *Connectivity club: Neuroimaging analysis of healthy and diseased brain networks*. Department of Psychology / York Neuroimaging Centre, York, UK.

2015. *Job talk: Towards neuroimaging-based subtyping of the healthy and diseased human brain*. Montreal Neurological Institute and Hospital, McGill University, Montreal, QC, Canada

2014. *MRI normalcy*. Invited talk for the neuroimaging special interest group at the 68th Annual Meeting of the American Epilepsy Society, Seattle, WA.

2014. *Structural MRI Analysis in the study of self-generated thought, social cognition, and autism*. Part of the Cognition and Circuits Seminar series, Montreal Neurological Institute and Hospital, McGill University, Montreal, QC, Canada

2014. *Open Methods Meeting: SurfStat*. Feindel Lecture, Brain Imaging Centre, Montreal Neurological Institute and Hospital, McGill University, Montreal, QC, Canada

2014. *Structural MRI profiling in temporal lobe epilepsy*. Epilepsy day platform presentation. Montreal Neurological Institute and Hospital, McGill University, Montreal, QC, Canada

2014. *Structural MRI Analysis in the study of cognition, large-scale networks and brain pathology*. Feindel Lecture, Brain Imaging Centre, Montreal Neurological Institute and Hospital, McGill University, Montreal, QC, Canada

2013. *Subregional mesiotemporal patterns of disease progression in temporal lobe epilepsy*. Platform presentation at 30th Annual International Epilepsy Congress, Montreal, QC.

2013. *Structural MRI analysis: volumetry, voxel-based morphometry, cortical thickness measurements and structural covariance network mapping*.
Lecture series “Analysis of structural and functional imaging data and brain connectivity” University of Leipzig / Max-Planck Institute for Human Cognitive and Brain Sciences.

2012. *ReSource project presentation*. Imaging Meeting, Max-Planck Institute for Human Cognitive and Brain Sciences.

2012. *Long-term practitioner study presentation*. Imaging Meeting, Max-Planck Institute for Human Cognitive and Brain Sciences.

2011. *MRI-based cortical thickness analysis in temporal lobe epilepsy*. Morphometry meeting, Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

2010. *Studying cortical thickness and connectivity with MRI in health and disease*. Singer lab, ETH Zurich, Switzerland.

TEACHING

2014. Teaching assistant for graduate-level course
Current topics in Neuroscience at [▶McGill University](#)

2009-2013. Teaching assistant for graduate-level course
Current topics in Neuroscience [▶McGill University](#)

2005. Teaching assistant for graduate-level course
EEG of visual processing [▶University of Osnabrueck](#)

2005. Teaching assistant for undergraduate-level courses
Action and Cognition 2 [▶University of Osnabrueck](#)

2004. Teaching assistant for undergraduate-level courses
Action and Cognition 1 [▶University of Osnabrueck](#)

2003 Teaching assistant for undergraduate-level course
Introduction to Logics [▶University of Osnabrueck](#)

FORMAL STUDENT SUPERVISION

Sofie Valk, PhD thesis co-supervision with Prof. Tania Singer,
August 2013-August 2015, University of Leipzig, Germany

Leon Skottnik, MSc thesis supervision, primary supervisor
November 2012 – June 2013, University of Maastricht, The Netherlands
Graduated with excellent standing in Dutch grading scale (9/10)

Bram Cordemans, BSc thesis supervision, primary supervisor
February 2013 – July 2013, University of Amsterdam, The Netherlands
Graduated with excellent standing in Dutch grading scale (8.5/10)

Sofie Valk, MSc thesis supervision, primary supervisor
August 2011-February 2012, University of Amsterdam, The Netherlands
Graduated with excellent standing in Dutch grading scale (9/10)

PROJECT ADVISOR

Lorenzo Caciagli (2014-2015)
University College London, PhD student in Neuroscience.

Sophie Adler (2015)
University College London, PhD student in Neuroscience.

Seok-Jun Hong (2010-2015)
McGill University, PhD student in Neuroscience.

Min Liu (2013-2015)
McGill University, post-doctoral researcher.

Dewi Schrader (2008-2010)
McGill University, post-doctoral researcher.

Daniel Rozen (2006-2007)
McGill University, Department of Biomedical Engineering.

FELLOWSHIPS AND AWARDS

2016.	Simon Groom Travel Award (▶MNI) 1,000 CAD
2014-2016.	Canadian Institute of Health Research, Fellowship (▶CIHR) 90,000 CAD
2014-2015.	Jeanne Timmins Costello Fellowship (▶MNI) 40,000 CAD (declined)
2013-2014.	Jeanne Timmins Costello Fellowship (▶MNI) 40,000 CAD
2011.	AES Travel Award (▶American Epilepsy Society) 1,500 USD
2010.	Esther Cushing Dissertation Fellowship (▶McGill University) 2,000 CAD
2009-2010.	Van Gelder - Savoy Studentship (▶Savoy Foundation) 34,500 CAD
2009.	Top-up, Integrated Program in Neuroscience (▶McGill University) 2,500 CAD

2009. Doctoral Transfer Award ([▶McGill University](#))
10,000 CAD
2008. Fellowship for Returning Graduate Students ([▶MNI](#))
10,000 CAD
2008. Alma Mater Travel Grant ([▶McGill University](#))
500 CAD
- 2007-2008. Foreign Studies Scholarship ([▶DAAD](#))
Approx. 20,000 EUR
2006. Foreign Studies Scholarship ([▶Studienstiftung](#))
Approx. 5,000 EUR
- 2002-2005. Full-time Scholarship BSc ([▶Studienstiftung](#))
Approx. 10,000 EUR
2006. B.Sc. Distinction ([▶University of Osnabrueck](#))
2003. Language Learning Stipend ([▶Studienstiftung](#))
2,500 EUR

RESEARCH GRANTS

EUROPEAN RESEARCH COUNCIL - ERC (ACCEPTED)

“Not all minds that wander are lost: a neurocognitive test of mind-wandering state’s contribution to human cognition“

(collaborator, PI: J. Smallwood, York, UK; 1,800,000 EUR for 2015-2019)

AD-HOC REVIEWER

Regular and direct review invitations for

Nature Scientific Reports, Brain, Neurology, Journal of Neuroscience, Cerebral Cortex, Neuroscience and Biobehavioral Reviews, Brain Structure and Function, NeuroImage, Human Brain Mapping, Cortex, Molecular Autism, Proceedings of the Royal Society: B, Developmental Sciences, Social Cognitive and Affective Sciences, NeuroImage Clinical, American Journal of Neuroradiology, Medicine, Neuropsychologia, Psychological Medicine, Epilepsia, Brain and Behavior, PlosONE, PloS Computational Biology, Journal of Neurology, JINS, Frontiers in Human Neuroscience, Computers in Biology and Medicine, Journal of Neuroradiology, Radiology

Grant reviews for

Deutsche Forschungsgemeinschaft ([▶web](#))

Israel Science Foundation ([▶web](#)).

Abstract reviews for the

Annual Meeting of the Organization of Human Brain Mapping.

MEETING ABSTRACTS AND CONFERENCE PRESENTATIONS

57. **B.C. Bernhardt**, J. Kulaga-Yoskovitz, K. Liang, A. Bernasconi, N. Bernasconi (*submitted*) MNI-HISUB25: a novel multi-contrast submillimetric 3T hippocampal subfield segmentation protocol and open access dataset. 69th Annual Meeting of the American Epilepsy Society, Philadelphia, USA.

56. S. Adler, **B.C. Bernhardt**, S. Hong, M. Liu, T. Baldeweg, A. Bernasconi, N. Bernasconi (*submitted*). *In vivo* mapping of gliosis in temporal lobe epilepsy using FLAIR intensity analysis. 69th Annual Meeting of the American Epilepsy Society, Philadelphia, USA.

55. S. Hong, **B.C. Bernhardt**, D.V. Schrader, N. Bernasconi, A. Bernasconi (*submitted*) Focal Cortical Dysplasia Type-II: MRI-based Profiling and Subtype Prediction. 22nd Annual Meeting of the Organization of Human Brain Mapping

54. M. Liu, **B.C. Bernhardt**, S. Hong, B. Caldairou, A. Bernasconi, N. Bernasconi (*submitted*) Diffusion MRI of the subcortical white matter in temporal lobe epilepsy: relation to hippocampal volume and cortical thickness. 69th Annual Meeting of the American Epilepsy Society, Philadelphia, USA.

52. S. Hong, **B.C. Bernhardt**, D.V. Schrader, N. Bernasconi, A. Bernasconi (2015) Multicontrast MRI profiling of focal cortical dysplasia type-II. 31st International Epilepsy Congress, Istanbul.

51. M. Liu, **B.C. Bernhardt**, S. Hong, B. Caldairou, A. Bernasconi, N. Bernasconi (2015) Differential Distribution of Cortical Thinning and Subcortical White Matter Diffusion Anomalies in Temporal Lobe Epilepsy. 31st International Epilepsy Congress, Istanbul.

50. **B.C. Bernhardt**, J. Kulaga-Yoskovitz, B. Caldairou, S. Hong, M. Liu, N. Bernasconi, A. Bernasconi (2015) MRI-based hippocampal subfield analysis accurately predicts surgical outcome. 31st International Epilepsy Congress, Istanbul.

49. S. Valk, **B.C. Bernhardt**, A. Boeckler, T. Singer (2015) Perceptual and cognitive metacognition have divergent structural substrates: a multi-modal MRI study. 21st Annual Meeting of the Organization of Human Brain Mapping, Honolulu, Hawaii, USA.

48. S. Valk, **B.C. Bernhardt**, A. Boeckler, P. Kanske, M. Trautwein, T. Singer (2015) Divergent network substrates of individual differences in empathy and mentalizing. 21st Annual Meeting of the Organization of Human Brain Mapping, Honolulu, Hawaii, USA.

47. **B.C. Bernhardt**, J. Kulaga-Yoskovitz, B. Caldairou, S. Hong, M. Liu, N. Bernasconi, A. Bernasconi (2015) MRI phenotyping of hippocampal subfield pathology in temporal lobe epilepsy. 21st Annual Meeting of the Organization of Human Brain Mapping, Honolulu, Hawaii, USA.
46. M. Liu, **B.C. Bernhardt**, S. Hong, B. Caldairou, N. Bernasconi, A. Bernasconi (2015) Multicontrast MRI analysis of gray and white matter pathology in temporal lobe epilepsy. S21st Annual Meeting of the Organization of Human Brain Mapping, Honolulu, Hawaii, USA.
45. M. Liu, N. Bernasconi, A. Bernasconi, **B.C. Bernhardt**, (2014) The severity of brain atrophy in temporal lobe epilepsy is unrelated to the side the focus: an Engel Class I study. 68th Annual Meeting of the American Epilepsy Society, Seattle, WA, USA.
44. **B.C. Bernhardt**, H. Kim, A. Bernasconi, N. Bernasconi. (2014) MRI spectrum of unilateral temporal lobe epilepsy: a surface based pattern analysis of mesiotemporal substructures. 68th Annual Meeting of the American Epilepsy Society, Seattle, WA, USA.
43. S. Hong, **B.C. Bernhardt**, D. Schrader, A. Bernasconi, N. Bernasconi. (2014) Automated detection of focal cortical dysplasia in MRI-negative epilepsy: class II diagnostic evidence. 68th Annual Meeting of the American Epilepsy Society, Seattle, WA, USA.
42. L. Skottnik, **B. Bernhardt**, H. Engen, S. Valk, B. Cordemans, M. Ricard, T. Singer (2014) Expert compassion meditators show cortical thickness increases in socio-affective brain networks. Submitted to the 20th Annual Meeting of the Organization for Human Brain Mapping, Hamburg, Germany.
41. **B. Bernhardt**, H. Kim, A. Bernasconi, N. Bernasconi (2014) Structural MRI profiling: accurate focus and surgical outcome prediction in temporal lobe epilepsy. Submitted to the 20th Annual Meeting of the Organization for Human Brain Mapping, Hamburg, Germany.
40. **B. Bernhardt**, H. Kim, S. Hong, S. Dery, A. Bernasconi, N. Bernasconi (2014) Subregional mesiotemporal network regularization and fragmentation in temporal lobe epilepsy. Submitted to the 20th Annual Meeting of the Organization for Human Brain Mapping, Hamburg, Germany.
39. A. Tusche, J. Smallwood, **B.C. Bernhardt**, T. Singer (2013) Classifying the wandering mind: decoding of self-generated thought based on task-related response patterns. The 19th Annual Meeting of the Organization for Human Brain Mapping, Seattle, WA.
38. **B.C. Bernhardt**, O. Klimecki, S. Leiberg, T. Singer (2013) Structural covariance networks of dorsal anterior insula predict

individual differences in empathy. The 19th Annual Meeting of the Organization for Human Brain Mapping, Seattle, WA.

37. **B.C. Bernhardt**, S. Valk, G. Silani, G. Bird, U. Frith, T. Singer (2013) Disruption of socio-cognitive networks in autism and alexithymia: an MRI covariance analysis. The 19th Annual Meeting of the Organization for Human Brain Mapping, Seattle, WA.

36. **B.C. Bernhardt**, H. Kim, A. Bernasconi, N. Bernasconi (2013) Subregional mesiotemporal patterns of disease progression in temporal lobe epilepsy. IEC 30th Annual Meeting, Montreal, QC

35. **B.C. Bernhardt**, N. Bernasconi (2013) Surface-based mapping of local structure-function relationships in temporal lobe epilepsy. IEC 30th Annual Meeting, Montreal, QC

34. S. Hong, **B.C. Bernhardt**, N. Bernasconi, A. Bernasconi (2013) Patterns of large-scale brain network organization in lesional and non-lesional extra-temporal epilepsy. IEC 30th Annual Meeting, Montreal, QC

33. S. Hong, D. Schrader, **B.C. Bernhardt**, N. Bernasconi, A. Bernasconi (2013) Diffuse cortical atrophy in extra-temporal epilepsy with non-diagnostic MRI. IEC 30th Annual Meeting, Montreal, QC

32. N. Steinbeis, **B.C. Bernhardt**, T. Singer (2013) The Role of Dorsolateral Prefrontal Cortex in the Development of Fairness and Strategic Social Decision-Making. SRCD Biennial Meeting, Seattle, WA, USA.

31. S. Hong, **B.C. Bernhardt**, D. Schrader, H. Kim, N. Bernasconi, A. Bernasconi (2012) MRI-based cortical thickness analysis in drug-resistant extra-temporal focal epilepsy. 18th Annual Meeting of the Organization for Human Brain Mapping, Beijing, China.

30. N. Bernasconi, L. Concha, H. Kim, **B.C. Bernhardt** (2011) Mapping diffusion abnormalities along white matter tracts in temporal lobe epilepsy. 64th Annual Meeting of the American Epilepsy Society, Baltimore, ML, USA.

29. N. Bernasconi, L. Concha, H. Kim, **B.C. Bernhardt** (2011) Mapping diffusion abnormalities along white matter tracts in temporal lobe epilepsy. 64th Annual Meeting of the American Epilepsy Society, Baltimore, ML, USA.

28. M.R. Keezer, H. Kim, **B.C. Bernhardt**, A. Bernasconi, N. Bernasconi (2011) Shape analysis in temporal lobe epilepsy with amygdalar enlargement. 64th Annual Meeting of the American Epilepsy Society, Baltimore, ML, USA.

27. **B.C. Bernhardt**, S.J. Hong, H. Kim, A. Bernasconi, N. Bernasconi (2011) Diffusion abnormalities of fiber tracts underlying cortical regions in temporal lobe

epilepsy. 17th Annual Meeting of the Organization for Human Brain Mapping, Quebec city, Canada.

26. **B.C. Bernhardt**, S.J. Hong, Z. Chen, Y. He, A. Evans, N. Bernasconi (2011) Graph-theoretical analysis of cortical thickness correlations in temporal lobe epilepsy. 17th Annual Meeting of the Organization for Human Brain Mapping, Quebec city, Canada.

25. D. Riviere, **B.C. Bernhardt**, H. Kim, S.J. Hong, M. Perrot, J.F. Mangin, J. Regis, N. Bernasconi, A. Bernasconi (2011) Diffuse sulcal anomalies associated with focal epileptogenic malformations of cortical development. 17th Annual Meeting of the Organization for Human Brain Mapping, Quebec city, Canada.

24. **B.C. Bernhardt**, N. Bernasconi (2010) MRI-based cortical thickness analysis in temporal lobe epilepsy: reproducibility and relation to surgical outcome. 64th Annual Meeting of the American Epilepsy Society, San Antonio, TX, USA.

23. H. Kim, **B.C. Bernhardt**, J. Natsume, N. Bernasconi (2010) Mapping thalamic pathology in idiopathic generalized epilepsy and temporal lobe epilepsy 64th Annual Meeting of the American Epilepsy Society, San Antonio, TX, USA.

22. **B.C. Bernhardt**, N. Bernasconi, L. Concha, A. Bernasconi (2010) MRI-based cortical thickness analysis: relationship to surgical outcome. 16th Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain.

21. **B.C. Bernhardt**, A. Bernasconi, L. Concha, N. Bernasconi (2010) Trajectories of cortical pathology in temporal lobe epilepsy: A longitudinal MRI study. 16th Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain.

20. **B.C. Bernhardt**, A. Bernasconi, Z.Chen, Y. He, A.C. Evans, N. Bernasconi (2010) Disrupted small-world organization of structural cortical networks in temporal lobe epilepsy. 16th Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain.

19. D.S. Schrader, **B.C. Bernhardt**, A. Bernasconi (2010) MRI-based cortical thickness in malformations of cortical development. 16th Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain.

18. N.L. Voets, **B.C. Bernhardt**, H. Kim, U. Yoon, N. Bernasconi, A. Bernasconi (2010). ISMRM 18th scientific meeting and exhibition, Stockholm, Sweden.

17. **B.C. Bernhardt**, H. Kim, J. Natsume, A. Bernasconi (2009) Mapping thalamic nuclear pathology in temporal lobe epilepsy. 63rd Annual Meeting of the American Epilepsy Society, Boston, MA, USA.

15. L. Concha, H. Kim, **B.C. Bernhardt**, N. Bernasconi (2009) Spatial localization of diffusion abnormalities along DTI tracts in temporal lobe epilepsy. MICCAI Workshop, London.

15. L. Concha, H. Kim, **B.C. Bernhardt**, N. Bernasconi (2009) Distance based analysis of DTI Tractography: Evidence for Focal Pathology in Temporal Lobe Epilepsy. 63rd Annual Meeting of the American Epilepsy Society, Boston, MA, USA.
14. A. Bernasconi, **B.C. Bernhardt**, H. Kim, J. Natsume, N. Bernasconi (2009) Idiopathic generalized epilepsy is associated with atrophy in pulvinar and somatomotor thalamic nuclei. 28th International Epilepsy Congress, Budapest, Hungary.
13. K.J. Worsley, J.E. Taylor, F. Carbonell, M.K. Chung, E. Duerden, **B. C. Bernhardt**, O. Lyttelton, M. Boucher, A.C. Evans (2009) SurfStat: A Matlab toolbox for the statistical analysis of univariate and multivariate surface and volumetric data using linear mixed effects models and random field theory. 15th Annual Meeting of the Organization for Human Brain Mapping, San Francisco, California.
12. **B.C. Bernhardt**, H. Kim, J. Natsume, N. Bernasconi, A. Bernasconi (2009) Temporal lobe epilepsy is associated with atrophy of limbic thalamic nuclei. 15th Annual Meeting of the Organization for Human Brain Mapping, San Francisco, California.
11. **B.C. Bernhardt**, K.J. Worsley, A.C. Evans, A. Bernasconi (2009) Cortical atrophy in temporal lobe epilepsy: distinguishing aging from disease progression. 15th Annual Meeting of the Organization for Human Brain Mapping, San Francisco, California.
10. **B.C. Bernhardt**, K.J. Worsley, A. Bernasconi, N. Bernasconi (2008) Temporal lobe epilepsy is associated with progressive neocortical thinning: A longitudinal study. 62nd Annual Meeting of the American Epilepsy Society, Seattle, WA, USA.
9. A. Bernasconi, **B.C. Bernhardt** (2008) Mapping thalamo-cortical connectivity in idiopathic generalized epilepsy using morphometric correlations. 62nd Annual Meeting of the American Epilepsy Society, Seattle, WA, USA.
8. N. Bernasconi, **B.C. Bernhardt** (2008) Mapping cortical thickness in temporal lobe epilepsy: Similar findings in patients with and without hippocampal atrophy. 62nd Annual Meeting of the American Epilepsy Society, Seattle, WA, USA.
7. **B.C. Bernhardt**, J.P. Lerch, A.C. Evans, N. Bernasconi, A. Bernasconi (2008) Mapping of entorhinal cortex connectivity in temporal lobe epilepsy. 14th Annual Meeting of the Organization for Human Brain Mapping, Melbourne, Australia.
6. **B.C. Bernhardt**, H. Kim, U. Yoon, N. Bernasconi, A. Bernasconi (2008) TLE is associated with reduced folding of the temporal neocortex ISMRM 16th scientific meeting and exhibition, Toronto, Canada.
5. **B.C. Bernhardt**, D. Rozen, L. Horwood, A. Bernasconi (2008) Thalamocortical atrophy in patients with primary generalized tonic and clonic seizures. ISMRM 16th Scientific Meeting and Exhibition, Toronto, Canada.

4. H. Kim, M. Niethammer, **B.C. Bernhardt**, S. Bouix, N. Bernasconi, and A. Bernasconi (2008) SPHARM detects hippocampal subfield pathology in temporal lobe epilepsy. ISMRM 16th Scientific Meeting and Exhibition, Toronto, Canada.
3. **B.C. Bernhardt**, S. Onat, S.K. Nagel, H. Frey, P. König (2007) The neural processing of natural stereoscopic images. An EEG study. 7th Meeting of the German Neuroscience Society / 31th Göttingen Neurobiology Conference 2007, Eds: K. Hoffman and K. Krieglstein, TS12-3B. Neuroforum 2007, Göttingen, Germany.
2. P. König, A. Açık, **B.C. Bernhardt**, C. Carl, T. Dierkes, I. Dombrowe, S. Gelesz, C. Honey, L. Jansen, C. Kabisch, T. Kringe, L. Kurzen, C. Lörken, R. Martin, S. Nagel, H. Saal, M. Stefaner, C. Stöbel, V. Willenbockel (2005) feelSpace - The Sixth Sense. Poster & Demo at ASSC9, Association for the scientific study of consciousness, 9th annual meeting, California Institute of Technology, Pasadena, California.
1. P. König, A. Açık, **B.C. Bernhardt**, C. Carl, T. Dierkes, I. Dombrowe, S. Gelesz, C. Honey, L. Jansen, C. Kabisch, T. Kringe, L. Kurzen, C. Lörken, R. Martin, S. Nagel, H. Saal, M. Stefaner, C. Stöbel, V. Willenbockel (2005) feelSpace - Report of a Study Group. 6th Meeting of the German Neuroscience Society / 30th Göttingen Neurobiology Conference 2005, Eds: H. Zimmermann and K. Krieglstein, 1 Suppl.: 434B. Neuroforum 2005, Göttingen, Germany.

MEDIA COVERAGE

Several major German newspapers reported on the findings reported in *Steinbeis, Bernhardt, Singer (2012)*, *Neuron*

Die Zeit [▶web](#)

Der Spiegel [▶web](#)

Die Welt [▶web](#)

Tagesspiegel [▶web](#)

Psychologie Heute [▶web](#)

The study was furthermore featured on

Science daily [▶web](#)

Therapy toronto [▶web](#)

The study of *Steinbeis, Bernhardt, Singer (2015) SCAN* was featured in

News-medical [▶web](#)

Neurosciencenews [▶web](#)

The Neural Basis of Empathy (2012) was highlighted in

New York Times [▶web](#)