

DAVID BERRON

POSTDOCTORAL RESEARCHER

Clinical Memory Research Unit, Lund University, Lund, Sweden

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ACADEMIC EXPERIENCE

Lund University

POSTDOCTORAL RESEARCHER

Lund, Sweden

2018 - present

Otto-von-Guericke University

POSTDOCTORAL RESEARCHER

Magdeburg, Germany

2017 - 2018

EDUCATION

Otto-von-Guericke University

PHD IN COGNITIVE NEUROSCIENCE

• Thesis title: Functional architecture of medial temporal lobe pathways and mnemonic discrimination in young and elderly adults

Magdeburg, Germany

2012 - 2017

University of Bremen

DIPLOMA IN PSYCHOLOGY (EQUIVALENT TO MSc DEGREE)

Bremen, Germany

2006 - 2011

Massachusetts Institute of Technology

VISITING RESEARCHER

Cambridge (MA), US

2010 - 2010

AWARDS AND SCHOLARSHIPS

Four conference travel awards

HUMAN AMYLOID IMAGING CONFERENCE, MULTI PARK, ALZHEIMER FORSCHUNG INITIATIVE, GSK FOUNDATION

2017 - 2020

Excellence doctoral scholarship

GERMAN NATIONAL ACADEMIC FOUNDATION

2012 - 2015

Award for research visit at Massachusetts Institute of Technology

FELGENHAUER FOUNDATION OF THE GERMAN NEUROLOGICAL SOCIETY (DGN)

2010 - 2010

Excellence student scholarship

GERMAN NATIONAL ACADEMIC FOUNDATION

2009 - 2012

LEADERSHIP POSITIONS AND INTERNATIONAL WORKING GROUPS

European Ultrahigh-field Imaging Network for Neurodegenerative Diseases (EUFIND)

ACTIVE WORKING GROUP MEMBER

www.eufind.org

Hippocampal Subfields Group (HSG)

MEMBER OF THE STEERING COMMITTEE

www.hippocampalsubfields.com

Norwegian National Anti-Alzheimer's Disease Network (NO-AD)

HONORARY INTERNATIONAL MEMBER

www.noad100.com

OTHER ACADEMIC EXPERIENCE

Teaching

e.g. manual segmentation workshops and lectures in Advanced Neuroscience program at Lund University

e.g. Nature Communications, Brain, eLife, Current Biology, Journal of Neuroscience, NeuroImage, Neuroimage: Clinical,

Ad Hoc Reviewer

Neurobiology of Ageing, Cortex and grant agencies such as L'Agence nationale de la recherche (ANR). See

<https://publons.com/researcher/1265906/david-berron/peer-review/> for a detailed list.

Symposia organization

e.g. Neuro.Wissen.Schaffen PhD student conference and hippocampal subfield working group meetings

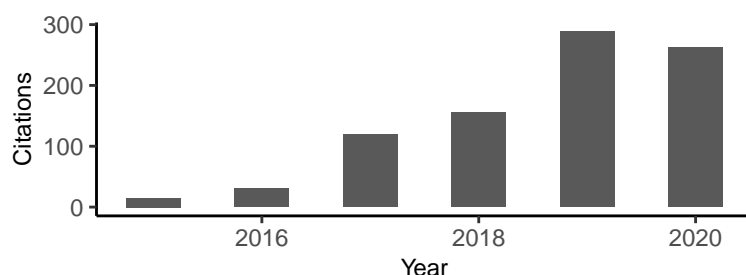
Supervision

F. Samatin (B.Sc.), S. Schetat (M.Sc.), D. Groß (MD), J. Güsten (PhD), X. Grande (PhD), F. Öhman (PhD)

PUBLICATIONS

Summary

In sum, I have published **26** research papers including **8** first- and **18** co-authorships. My papers have been cited **887** times (H index: 13, Google Scholar, 14.09.2020). *indicates equal contribution.



1. **Berron, D**, Dv Westen, R Ossenkoppele, O Strandberg, and O Hansson (accepted). Medial temporal lobe connectivity and its associations with cognition in early Alzheimer's disease. *Brain : a journal of neurology*.
2. Janelidze, S, **D Berron**, O Strandberg, NK Proctor, JL Dage, R Smith, E Stomrud, S Palmqvist, N Mattsson-Carlgrén, and O Hansson (2020). Plasma phospho-tau217 changes before tau-PET in preclinical Alzheimer's disease. *JAMA Neurology*.
3. Nyberg, L, X Grande, M Andersson, **D Berron**, A Lundquist, M Stiernstedt, A Fjell, K Walhovd, and G Orädd (2020). Forecasting memory function in aging: pattern-completion ability and hippocampal activity relate to visuospatial functioning over 25 years. *Neurobiology of aging* **94**, 217–226.
4. Young, PN, M Estarellas, E Coomans, M Srikrishna, H Beaumont, A Maass, AV Venkataraman, R Lissaman, D Jiménez, MJ Betts, E McGlinchey, **D Berron**, A O'Connor, N Fox, JB Pereira, W Jagust, SF Carter, RW Paterson*, and M Schöll* (accepted). Imaging Biomarkers in Neurodegeneration: Current and Future Practices. *Alzheimer's Research and Therapy*.
5. **Berron, D**, A Cardenas-Blanco, D Bittner, CD Metzger, A Spottke, MT Heneka, K Fließbach, A Schneider, SJ Teipel, M Wagner, O Speck, F Jessen, and E Düzel (2019). Higher CSF tau levels are related to hippocampal hyperactivity and object mnemonic discrimination in older adults. *The Journal of Neuroscience*.
6. Flores*, R, **D Berron***, SL Ding, R Ittyerah, JB Pluta, L Xie, DH Adler, JL Robinson, T Schuck, JQ Trojanowski, M Grossman, W Liu, S Pickup, SR Das, DA Wolk, PA Yushkevich, and LEM Wisse (2019). Characterization of hippocampal subfields using ex vivo MRI and histology data: Lessons for in vivo segmentation. *Hippocampus*.
7. Maass, A, **D Berron**, TM Harrison, JN Adams, RL Joie, S Baker, T Mellinger, RK Bell, K Swinnerton, B Inglis, GD Rabinovici, E Düzel, and WJ Jagust (2019). Alzheimer's pathology targets distinct memory networks in the ageing brain. *Brain* **142**(8), 2492–2509.
8. Bainbridge, WA et al. (2019). Memorability of photographs in subjective cognitive decline and mild cognitive impairment: Implications for cognitive assessment. *Alzheimer's & Dementia DADM* **11**, 610–618.
9. Grande, X, **D Berron**, AJ Horner, JA Bisby, E Düzel, and N Burgess (2019). Holistic recollection via pattern completion involves hippocampal subfield CA3. *The Journal of Neuroscience*.
10. Düzel, E, J Acosta-Cabronero, et al. (2019). European Ultrahigh-Field Imaging Network for Neurodegenerative Diseases (EUFIND). *Alzheimer's & Dementia DADM* **11**, 538–549.
11. Olsen, RK et al. (2019). Progress update from the hippocampal subfields group. *Alzheimer's & Dementia DADM* **11**, 439–449.
12. Smith, R, AF Santillo, ML Waldö, O Strandberg, **D Berron**, S Vestberg, Dv Westen, Jv Swieten, M Honer, and O Hansson (2019). 18F-Flortaucipir in TDP-43 associated frontotemporal dementia. *Scientific reports* **9**(1), 6082.
13. Spallazzi, M, L Dobisch, A Becke, **D Berron**, D Stucht, S Oeltze-Jafra, P Caffarra, O Speck, and E Düzel (2019). Hippocampal vascularization patterns: A high-resolution 7 Tesla time-of-flight magnetic resonance angiography study. *NeuroImage Clinical* **21**, 101609.
14. Vieweg, P, M Riemer, **D Berron**, and T Wolbers (2019). Memory Image Completion: Establishing a task to behaviorally assess pattern completion in humans. *Hippocampus* **29**(4), 340–351.
15. **Berron, D**, K Neumann, A Maass, H Schütze, K Fliessbach, V Kiven, F Jessen, M Sauvage, D Kumaran, and E Düzel (2018). Age-related functional changes in domain-specific medial temporal lobe pathways. *Neurobiology of Aging* **65**, 86–97.
16. Koster, R, MJ Chadwick, Y Chen, **D Berron**, A Banino, E Düzel, D Hassabis, and D Kumaran (2018). Big-Loop Recurrence within the Hippocampal System Supports Integration of Information across Episodes. *Neuron* **99**(6), 1342–1354.e6.
17. Düzel, E, **D Berron, et al.** (2018). CSF total tau levels are associated with hippocampal novelty irrespective of hippocampal volume. *Alzheimer's & Dementia DADM* **10**(C), 782–790.
18. **Berron*, D**, P Vieweg*, A Hochkeppeler, JB Pluta, SLL Ding, A Maass, A Luther, L Xie, SR Das, DA Wolk, T Wolbers, PA Yushkevich, E Düzel, and LEME Wisse (2017). A protocol for manual segmentation of medial temporal lobe subregions in 7 Tesla MRI. *NeuroImage Clinical* **15**, 466–482.
19. **Berron, D**, H Schütze, A Maass, A Cardenas-Blanco, HJ Kuijf, D Kumaran, and E Düzel (2016). Strong Evidence for Pattern Separation in Human Dentate Gyrus. *The Journal of Neuroscience* **36**(29), 7569–7579.
20. Moon, H, A Becke, **D Berron**, B Becker, N Sah, G Benoni, E Janke, ST Lubejko, NH Greig, JA Mattison, E Duzel, and H van Praag (2016). Running-Induced Systemic Cathepsin B Secretion Is Associated with Memory Function. *Cell Metabolism* **24**(2), 332–340.
21. Wisse, LE et al. (2016). A harmonized segmentation protocol for hippocampal and parahippocampal subregions: Why do we need one and what are the key goals? *Hippocampus*.
22. Loh, E, Z Kurth-Nelson, **D Berron**, P Dayan, E Duzel, R Dolan, and M Guitart-Masip (2016). Parsing the Role of the Hippocampus in Approach–Avoidance Conflict. *Cerebral Cortex* **27**(1), 201–215.
23. Loh, E, D Kumaran, R Koster, **D Berron**, R Dolan, and E Duzel (2016). Context-specific activation of hippocampus and SN/VTA by reward is related to enhanced long-term memory for embedded objects. *Neurobiology of Learning and Memory* **134**, 65–77.
24. Maass*, A, **D Berron***, L Libby, C Ranganath, and DE Elife (2015). Functional subregions of the human entorhinal cortex. *eLife*.

25. **Berron, D**, S Frühholz, and M Herrmann (2015). Neural Control of Enhanced Filtering Demands in a Combined Flanker and Garner Conflict Task. *PLOS One* **10**(3), e0120582.
26. Maass, A, H Schütze, O Speck, A Yonelinas, C Tempelmann, HJ Heinze, D **Berron**, A Cardenas-Blanco, KH Brodersen, K Stephan, and E Düzel (2014). Laminar activity in the hippocampus and entorhinal cortex related to novelty and episodic encoding. *Nature Communications* **5**(1), 5547.

BOOK CHAPTERS AND INVITED ARTICLES

1. **Berron, D** and E Düzel (2019). Digitales Monitoring von spezifischen kognitiven Beeinträchtigungen in der frühen Alzheimer-Erkrankung. *in Jessen, F., Bug, C. (Hrsg.): "Disease Interception", eRelation Verlag, Bonn, S. 79-91.*
2. Düzel, E, JR Thyrian, and D **Berron** (2019). Innovation in der Diagnostik – Mobile Technologien. *Der Nervenarzt.*

THESES

Berron D. 2017. Functional Architecture of Medial Temporal Lobe Pathways and Mnemonic Discrimination in Young and Elderly Adults. PhD thesis. Otto-von-Guericke University Magdeburg. Germany.

Berron D. 2011. Neuronal mechanisms underlying Garner and Flanker interference processing – Insights from neuroimaging. Diploma thesis. University of Bremen. Germany.

SELECTED INVITED TALKS

Wallenberg Centre for Molecular and Translational Medicine (invited by Michael Schöll)

FUNCTIONAL ARCHITECTURE AND INTEGRITY OF MTL MEMORY PATHWAYS IN AGEING AND EARLY ALZHEIMER'S DISEASE

Gothenburg University, Sweden

2017

Helen Wills Neuroscience Institute (invited by Bill Jagust)

STRUCTURAL AND FUNCTIONAL INTEGRITY OF MTL PATHWAYS IN AGEING AND EARLY ALZHEIMER'S DISEASE

UC Berkeley, US

2016

Medical Research Council, Cognition and Brain Sciences Unit (invited by Rik Henson)

DOMAIN-SPECIFIC PRECISION OF RECOGNITION MEMORY IN THE HUMAN MEDIAL TEMPORAL LOBE

Cambridge, UK

2015

SELECTED CONFERENCE TALKS

Alzheimer's Association International Conference (virtual meeting)

TAU, NEURAL FUNCTION AND EPISODIC MEMORY IN THE MEDIAL TEMPORAL LOBE

Amsterdam, NLD

2020

AAT-AD/PD (virtual meeting)

MEDIAL TEMPORAL LOBE FUNCTIONAL CONNECTIVITY ALTERATIONS DURING THE EARLY STAGES OF ALZHEIMER'S DISEASE

Vienna, AUT

2020

Human Amyloid Imaging meeting

AREA 35 IS THE FIRST MTL SUBREGION AFFECTED BY TAU PATHOLOGY

Miami, US

2020

Alzheimer's Association International Conference

ORGANIZATION OF A FEATURED RESEARCH SYMPOSIUM "EFFECTS OF AD PATHOLOGY ON FUNCTIONAL BRAIN SYSTEMS"

Chicago, US

2018

Dementia MRI conference

OBJECT AND SCENE MEMORY ARE DIFFERENTIALLY ASSOCIATED WITH CSF MARKERS OF AD AND MRI VOLUMETRY.

Cardiff, Wales

2017

International Conference on Memory (ICOM)

FUNCTIONAL ARCHITECTURE OF DOMAIN-SPECIFIC MNEMONIC DISCRIMINATION IN THE MEDIAL TEMPORAL LOBE

Budapest, Hungary

2016