

CURRICULUM VITAE

Björn Herrmann, Dr. rer. nat. (PhD), Dipl.-CommPsych

Contact information

Email: herrmann.b@gmail.com
Web: www.bjornherrmann.com
orcid: 0000-0001-6362-3043

The Brain and Mind Institute
The University of Western Ontario
London, Ontario N6A 5B7, Canada

Education

- 2011 **Dr. rer. nat. (PhD)**, *summa cum laude* (date of defense: 2011-10-27)
Psychology, University of Leipzig, Germany
- 2008 **Diploma in Communication Psychology (MSc equivalent)**, *grade 1.0, equivalent to with distinction*
University of Applied Sciences Zittau/Görlitz, Germany
- 2000 **Industrial mechanics for machines and systems (Apprenticeship)**
Siemens AG, Berlin, Germany

Academic employment (full time)

- 2015– **Post-doctoral fellow/associate**
University of Western Ontario, Brain & Mind Institute, London, ON, Canada,
Prof. I.S. Johnsrude
- 2012–2014 **Post-doctoral researcher**
Max Planck Research Group "Auditory Cognition", Max Planck Institute for
Human Cognitive and Brain Sciences, Leipzig, Germany, *Prof. J. Obleser*
- 10/2014 **Visiting post-doctoral researcher**
Purdue University, Department of Biomedical Engineering, Central Auditory
Processing Laboratory, West Lafayette, IN, USA, *Prof. E.L. Bartlett*
- 04/2014–
05/2014 **Visiting post-doctoral researcher**
Purdue University, Department of Biomedical Engineering, Central Auditory
Processing Laboratory, West Lafayette, IN, USA, *Prof. E.L. Bartlett*
- 2008–2011 **PhD student in psychology**
Max Planck Institute for Human Cognitive and Brain Sciences, Department of
Neuropsychology / Research Group "MEG and EEG: Signal Analysis and
Modeling", Leipzig, Germany, *Prof. A.D. Friederici, Dr. B. Maeß*
DFG (German research foundation) graduate program "Function of Attention
in Cognition", University of Leipzig, Germany, *Prof. E. Schröger*

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Non-academic employment (full time)

| | |
|-----------|---|
| 2003–2004 | Quality control inspector , calibration laboratory Siemens AG (Power Generation), Berlin, Germany |
| 2002–2003 | Civil service , janitor Pro Seniore, Nursing home for the elderly, Berlin, Germany |
| 2000–2002 | Quality control inspector , calibration laboratory Siemens AG (Power Generation), Berlin, Germany |
| 1997–2000 | Apprenticeship for industrial mechanics Siemens AG, Berlin, Germany |

Competitive research funding

| | | |
|-----------|--|------------------|
| 2018–2019 | Western University's CFREF BrainsCAN Stimulus grant "System-wide electrophysiological assessment of hearing". (Role: Co-PI). | 57.2K CAD |
| 2017–2020 | Research funds associated with BrainsCAN Postdoctoral Scholars Program "Assessment of neural pathway function for hearing", The University of Western Ontario, Canada | 15K CAD |
| 2017 | BMI Postdoctoral Collaborative Research Grant , Western University. (Role: PI with D. Stolzberg) (declined) | 1.85K CAD |

Competitive fellowships

| | | |
|-----------|---|-----------------|
| 2017–2020 | BrainsCAN Postdoctoral Scholars Program "Assessment of neural pathway function for hearing", The University of Western Ontario, Canada | 210K CAD |
| 2015–2016 | Western Cognitive Neuroscience Postdoctoral Fellowship Award , The Brain and Mind Institute, The University of Western Ontario, Canada | 50K CAD |

Awards and honors

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|------|---|-----------------|
| 2017 | Postdoctoral Scholar of the Year Award , The University of Western Ontario, Canada | |
| 2017 | Travel award , International Conference on Auditory Cortex, Canada | 500 CAD |
| 2017 | Travel award , Association for Research in Otolaryngology, USA | 500 USD |
| 2015 | Trainee Professional Development Award , Society for Neuroscience, USA | 1265 USD |
| 2014 | Travel award , German Academic Exchange Service (DAAD) | 1384 € |

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2012 **PhD award**, Research Academy Leipzig, University of Leipzig, **400 €**
Germany

Publications and citation record (6-May-18, Google Scholar)

Number of publications: **36** (18 first author; 2 joint first author; 4 opinion/review papers)
Number of citations: **~710**
Hirsch index: **17**
i10 index: **22**

List of publications in peer-review journals

36. **Herrmann B**, Johnsrude IS (accepted) Neural signatures of the processing of temporal patterns in sounds. *The Journal of Neuroscience*.
35. **Herrmann B**, Maess B, Johnsrude IS (2018) Aging affects adaptation to sound-level statistics in human auditory cortex. *The Journal of Neuroscience* 38:1989–1999.
34. **Herrmann B**, Johnsrude IS (2018) Attentional state modulates the effect of an irrelevant stimulus dimension on perception. *Journal of Experimental Psychology: Human Perception and Performance* 44: 89-105. ([webpage access](#))
33. **Herrmann B**, Parthasarathy A, Bartlett EL (2017) Aging affects dual encoding of periodicity and envelope shape in rat inferior colliculus neurons. *European Journal of Neuroscience* 2:299–311.
32. Holmes E, **Herrmann B** (2017). Revisiting the contribution of auditory cortex to frequency-following responses. *The Journal of Neuroscience* 37:5218-5220. ([open access](#))
31. Henry MJ, **Herrmann B**, Kunke D, Obleser J (2017) Aging affects the balance of neural entrainment and top-down neural modulation in the listening brain. *Nature Communications* 8:15801. ([open access](#))
30. Henry MJ, **Herrmann B**, Grahn JA (2017) What can we learn about beat perception by comparing brain signals and stimulus envelopes? *PLoS ONE* 12:e0172454. ([open access](#))
29. **Herrmann B**, Henry MJ, Johnsrude IS, Obleser J (2016) Altered temporal dynamics of neural adaptation in the aging human auditory cortex. *Neurobiology of Aging* 45:10-22. ([webpage access](#))
28. **Herrmann B**, Henry MJ, Haegens S, Obleser J (2016) Temporal expectations and neural amplitude fluctuations in auditory cortex interactively influence perception. *NeuroImage* 124: 487-497.
27. Wöstmann M, **Herrmann B**, Maess B, Obleser J (2016) The spatiotemporal dynamics of auditory attention synchronize with speech. *Proceedings of the National Academy of Sciences* 113:3873-3878. ([open access](#))

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26. Henry MJ, **Herrmann B**, Obleser J (2016) Neural microstates govern perception of auditory input without rhythmic structure. *The Journal of Neuroscience* 36:860-871. ([open access](#))
25. Scharinger M, Bendixen A, **Herrmann B**, Henry MJ, Mildner T, Obleser J (2016) Predictions interact with missing sensory evidence in semantic processing areas. *Human Brain Mapping* 37:704-716.
24. **Herrmann B**, Parthasarathy A, Han EX, Obleser J, Bartlett EL (2015) Sensitivity of rat inferior colliculus neurons to frequency distributions. *Journal of Neurophysiology* 114:2941-295. ([open access](#))
23. **Herrmann B**, Henry MJ, Fromboluti EK, McAuley JD, Obleser J (2015) Statistical context shapes stimulus-specific adaptation in human auditory cortex. *Journal of Neurophysiology* 113:2582-2591. ([open access](#))
22. Wöstmann M, **Herrmann B**, Wilsch A, Obleser J (2015) Neural alpha dynamics in younger and older listeners reflect acoustic challenges and predictive benefits. *The Journal of Neuroscience* 35:1458-1467. ([open access](#))
21. Henry MJ, **Herrmann B**, Obleser J (2015) Selective attention to temporal features on nested time scales. *Cerebral Cortex* 25:450-459. ([open access](#))
20. Wilsch A, Henry MJ, **Herrmann B**, Maess B, Obleser J (2015) Alpha oscillatory dynamics index temporal expectation benefits in working memory. *Cerebral Cortex* 25: 1938-1946. ([open access](#))
19. Wilsch A, Henry MJ, **Herrmann B**, Maess B, Obleser J (2015) Slow-delta phase concentration marks improved temporal expectations based on the passage of time. *Psychophysiology* 52:910–918.
18. **Herrmann B**, Schlichting N, Obleser J (2014) Dynamic range adaptation to spectral stimulus statistics in human auditory cortex. *The Journal of Neuroscience* 34:327-331. ([open access](#))
17. **Herrmann B**, Henry MJ, Scharinger M, Obleser J (2014) Supplementary motor area activations predict individual differences in temporal-change sensitivity and its illusory distortions. *NeuroImage* 101:370-379.
16. Henry MJ, **Herrmann B**, Obleser J (2014) Entrained neural oscillations in multiple frequency bands co-modulate behavior. *Proceedings of the National Academy of Sciences* 111:14935-14940. ([open access](#))
15. Henry MJ, **Herrmann B** (2014) Low-frequency neural oscillations support dynamic attending in temporal context. *Timing & Time Perception*, 2:62-86. ([open access](#))
14. Scharinger M, **Herrmann B**, Nierhaus T, Obleser J (2014) Simultaneous EEG-fMRI brain signatures of auditory cue utilization. *Frontiers in Neuroscience* 8:Article 137. ([open access](#))
13. **Herrmann B**, Henry MJ, Grigutsch M, Obleser J (2013) Oscillatory phase dynamics in neural entrainment underpin illusory percepts of time. *The Journal of Neuroscience* 33:15799-15809. ([open access](#))

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12. **Herrmann B**, Henry MJ, Scharinger M, Obleser J (2013) Auditory filter width affects response magnitude but not frequency specificity in auditory cortex. *Hearing Research* 304:128-136. ([webpage access](#))
11. **Herrmann B**, Henry MJ, Obleser J (2013) Frequency-specific adaptation in human auditory cortex depends on the spectral variance in the acoustic stimulation. *Journal of Neurophysiology* 109:2086-2096. ([open access](#))
10. Ruhnau P, **Herrmann B**, Maess B, Brauer J, Friederici AD, Schröger E (2013) Processing of complex distracting sounds in school-aged children and adults: Evidence from EEG and MEG data. *Frontiers in Psychology* 4:717. ([open access](#))
9. **Herrmann B**, Maess B, Kalberlah C, Haynes J-D, Friederici AD (2012) Auditory perception and syntactic cognition: Brain activity-based decoding within and across subjects. *European Journal of Neuroscience* 35:1488-1496.
8. **Herrmann B**, Obleser J, Kalberlah C, Haynes J-D, Friederici AD (2012) Dissociable neural imprints of perception and grammar in auditory functional imaging. *Human Brain Mapping* 33:584-595.
7. Ruhnau P*, **Herrmann B***, Schröger E (2012) Finding the right control: The mismatch negativity under investigation. *Clinical Neurophysiology* 123:507-512.
6. Henry MJ*, **Herrmann B*** (2012) A precluding role of low-frequency oscillations for auditory perception in a continuous processing mode. *The Journal of Neuroscience* 32:17525–17527. ([open access](#))
5. Obleser J, **Herrmann B**, Henry MJ (2012) Neural oscillations in speech: Don't be enslaved by the envelope. *Frontiers in Human Neuroscience* 6:250. ([open access](#))
4. **Herrmann B**, Maess B, Hahne A, Schröger E, Friederici AD (2011) Syntactic and auditory spatial processing in the human temporal cortex: An MEG study. *NeuroImage* 57:624–633.
3. **Herrmann B**, Maess B, Friederici AD (2011) Violation of syntax and prosody - Disentangling their contributions to the early left anterior negativity (ELAN). *Neuroscience Letters* 490:116-120. ([webpage access](#))
2. Ruhnau P, **Herrmann B**, Maess B, Schröger E (2011) Maturation of obligatory auditory responses and their neural sources: Evidence from EEG and MEG. *NeuroImage* 58:630-639.
1. **Herrmann B**, Maess B, Hasting AS, Friederici AD (2009) Localization of the syntactic mismatch negativity in the temporal cortex: An MEG study. *NeuroImage* 48:590-600.

* Authors contributed equally to the work.

Manuscripts submitted / under review / in revision:

Parthasarathy A*, **Herrmann B***, Bartlett EL (2018) Aging alters envelope representations of speech-like sounds in the inferior colliculus. *BioRxiv* 2018/266650. Preprint

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Kwok E, Cardy JO, Allman BL, Allen P, **Herrmann B** (under review) Dynamics of spontaneous neural activity correlate with language ability in young children.

Wilsch A, Henry MJ, **Herrmann B**, Herrmann C, Obleser J (2017) Temporal expectation modulates cortical dynamics of sensory memory. *BioRxiv* 2017/201756. Preprint

Talks

17. New Horizons in Vision and Hearing Research Symposium (**invited**), University of Tübingen, Germany, 2018
16. Department of Neurosurgery (**invited**), University of Iowa, USA, 2017
15. Department of Psychology (**invited**), Concordia University, Canada, 2017
14. Department of Psychology (**invited**), University of Lübeck, Germany, 2017
13. International Conference on Auditory Cortex, Canada, 2017
12. Max Planck Society (**invited**), Germany, 2017
11. Association for Research in Otolaryngology Meeting (**invited**), USA, 2017
10. Speech, Language & Hearing Science Department (**invited**), Purdue University, USA, 2015
9. Society for Neuroscience Meeting, USA, 2015
8. The Brain and Mind Institute (**invited**), The University of Western Ontario, Canada, 2015
7. National Audiology Centre (**invited**), The University of Western Ontario, Canada. 2015
- 6.. Rhythm & Timing Symposium, The University of Western Ontario, London, ON, Canada, 2015
5. Seminars in Hearing Research (**invited**), Purdue University, USA, 2014
4. Department of Psychology (**invited**), University of Leipzig, Germany, 2014
3. Department of Psychology (**invited**), University of Oldenburg, Germany, 2014
2. Young Scientist Retreat, Germany, 2013
1. MEG workshop: Disentangling the brain web (**invited**), Center for Mind/Brain Sciences, University of Trento, Italy, 2013

Teaching experience

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| 2017 | Guest lecture, The University of Western Ontario, Canada <i>Course: Biomedical Signal Processing: Analysis of multi-channel EEG data</i> School of Communication Sciences and Disorders |
| 2017 | Workshop on Aesthetics in Cognitive Neuroscience, The University of Western Ontario, Canada <i>Half-day workshop on aesthetics in science and hands-on graphic design</i> The Brain and Mind Institute |
| 2017 | Guest lecture, The University of Western Ontario, Canada <i>Course: Introduction to Evoked Potentials: Magnetoencephalography</i> |

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School of Communication Sciences and Disorders

- 2016 Workshop on Electroencephalography, The University of Western Ontario, Canada
3-day workshop on EEG-theory and hands-on analysis
The Brain and Mind Institute, Department of Psychology
- 2014 Guest lectures (N=3), University of Leipzig, Germany
Course: Methods in cognitive neuroscience: Behavioral and psychophysical methods; Electrophysiology; Electroencephalography
Department of Psychology
- 2013 Guest lectures (N=3), University of Leipzig, Germany
Course: Methods in cognitive neuroscience: Electrophysiology; Electroencephalography; Magnetoencephalography
Department of Psychology
- 2012 Guest lecture, University of Leipzig, Germany
Course: Methods in cognitive neuroscience: Magnetoencephalography
Department of Psychology
- 2007 Seminar, University of applied sciences Zittau / Görlitz, Germany
Course: Multimedia psychology
Department of Communication Psychology

Teaching/professional development

- 2015 Teaching Support Centre workshop: "Teaching with technology" (workshop attended as a participant)

Supervision / informal co-supervision

- PhD theses *Malte Wöstmann*, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, 2012–2015 · *Anna Wilsch*, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, 2012–2014.
- MSc theses *Sonia Varma*, The University of Western Ontario, Canada, 2017–present · *Mason Kadem*, The University of Western Ontario, Canada, 2017–present
- BSc theses *Nadine Schlichting*, University of Chemnitz, Germany, 2013.
- Honor's theses *Luka Petrusevski*, The University of Western Ontario, Canada, 2017–2018 · *Maya Ramakrishnan*, The University of Western Ontario, Canada, 2015–2016.
- Research assistants *Chad Buckland*, The University of Western Ontario, Canada, 2017 · *Youngkyung Jung*, The University of Western Ontario, Canada, 2016–present · *Suvarna Moharir*, The University of Western Ontario, Canada, 2015–2017 · *Kristian McCarthy*, The University of Western Ontario, Canada,

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2015–2017 · *Patrick Park*, The University of Western Ontario, Canada,
2015–2016 · *Jackie Tsang*, The University of Western Ontario, Canada,
2015 · *Kristina Bauer*, University of Leipzig, Germany, 2014–2015 · *Steven Kalinke*, University of Leipzig, Germany, 2013–2015 · *Leonhard Waschke*, University of Leipzig, Germany, 2013–2014 · *Mirja Kuhlencord*, University of Leipzig, Germany, 2013–2014 · *Christoph Daube*, University of Leipzig, Germany, 2012–2013

Interns *Thomas Augereau*, The University of Western Ontario, Canada, 2018 · *Nadine Schlichting*, University of Chemnitz, Germany, 2012 · *Nancy Grochol*, University of Leipzig, Germany, 2012 · *Sandra Siedlok*, University of Chemnitz, Germany, 2010 · *Thomas Pfeffer*, University of Magdeburg, Germany, 2009 · *Christian Hoffmann*, University of Osnabrück, Germany, 2009.

Professional activities

Advisory committees

3. Krystyna Wiczerzak, PhD, Neuroscience, University of Western Ontario, 2018–present
2. Mason Kadem, MSc, Neuroscience, University of Western Ontario, 2018–present
1. Sonia Varma, MSc, Neuroscience, University of Western Ontario, 2018–present

Mentor for PhD comprehensive exams

2. Kaela Scott, PhD, Neuroscience, University of Western Ontario, 2018
1. Abdullah Al-Jaja, PhD, Neuroscience, University of Western Ontario, 2018

Reviewing – Funding agencies

- Deutsche Forschungsgemeinschaft (German Research Foundation), Germany
- National Science Foundation (NSF), USA

Reviewing – Journals

- The Journal of Neuroscience; eLife; NeuroImage; Journal of Neurophysiology; Neuropsychologia; Attention, Perception, & Psychophysics; Transactions on Biomedical Engineering; European Journal of Neuroscience; Brain Structure and Function; PLoS ONE; Neuroscience; Psychophysiology; Timing & Time Perception; Brain Topography; Frontiers in Psychology; Frontiers in Systems Neuroscience; International Journal of Psychophysiology; Journal of Memory and Language; Neuroscience Letters; Brain and Language; Brain Research; Brain and Cognition; Experimental Brain Research; Cognitive Neuroscience; Language, Cognition and Neuroscience

Society memberships:

- Association for Research in Otolaryngology, Society for Neuroscience

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Other activities

- 2016 Thames Valley Science & Engineering Fair, High school, Judge
- 2014 Public science report, “Auditory processing in the brain: Dynamic adaptation to the acoustic environment”, Yearbook of the Max Planck Society, Germany, <http://www.mpg.de/7842770/>
- 2005–2006 Steering committee, student representative, Communication Psychology University of applied sciences Zittau/Görlitz, Germany

Conference poster presentations

- First-author (N=22) **2018:** Association for Research in Otolaryngology (San Diego, USA); **2017:** International Conference on Auditory Cortex (Banff, Canada) · CuttingEEG symposium (Glasgow, Scotland); **2016:** Association for Research in Otolaryngology (N=2; San Diego, USA) · Society for Neuroscience (San Diego, USA) · Symposium on Advances and Perspectives in Auditory Neurophysiology (San Diego, USA); **2015:** Society for Neuroscience (Chicago, USA); **2014:** Society for Neuroscience (Washington DC, USA) · Symposium on Advances and Perspectives in Auditory Neurophysiology (Washington DC, USA) · Cognitive Neuroscience Society (Boston, USA) · International Conference on Auditory Cortex (Magdeburg, Germany); **2013:** Society for Neuroscience (San Diego, USA) · Symposium on Advances and Perspectives in Auditory Neurophysiology (San Diego, USA) · CRC Conference 2013: Rhythmic Dynamics and Cognition (Boston, USA) · Conference on Cognitive Hearing Science for Communication (Linköping, Sweden) · Psychologie und Gehirn (Würzburg, Germany); **2012:** International Conference on Auditory Cortex (Lausanne, Switzerland); **2011:** Cognitive Neuroscience Society (San Francisco, USA); **2010:** Research Festival Leipzig (Leipzig, Germany) · International Conference on Biomagnetism (Dubrovnik, Croatia); **2009:** Conference on Mismatch Negativity (Budapest, Hungary).

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Co-author
(N=26)

2018: Association for Research in Otolaryngology (San Diego, USA); **2017:** Society for Neuroscience (Washington DC, USA) · **2015:** Society for Neuroscience (Chicago, USA) · Cognitive Neuroscience Society (San Francisco, USA); **2014:** Society for Neuroscience (N=3, Washington DC, USA) · Symposium on Advances and Perspectives in Auditory Neurophysiology (Washington DC, USA) · International Conference on Auditory Cortex (Magdeburg, Germany) · Cognitive Neuroscience Society (Boston, USA) · Erlanger audiology colloquium for scientists and developers (Erlangen, Germany); **2013:** Society for Neuroscience (San Diego, USA) · Neurobiology of Language Conference (San Diego, USA) · Symposium on Advances and Perspectives in Auditory Neurophysiology (San Diego, USA) · International Conference on Basic and Clinical Multimodal Imaging (Geneva, Switzerland) · TIMELY Workshop on "Development of Timing and Time Perception: A lifespan perspective" (Granada, Spain) · CRC Conference 2013: Rhythmic Dynamics and Cognition (Boston, USA) · International Conference on Cognitive Hearing Science for Communication (Linköping, Sweden) · Psychologie und Gehirn (Würzburg, Germany) · Cognitive Neuroscience Society (San Francisco, USA); **2012:** Society for Neuroscience (New Orleans, USA) · Conference on Mismatch Negativity (New York, USA); **2011:** Cognitive Neuroscience Society (San Francisco, USA) · International Conference on Cognitive Neuroscience (Palma, Mallorca, Spain); **2010:** Psychologie und Gehirn (Greifswald, Germany); **2009:** Conference on Mismatch Negativity (Budapest, Hungary).