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## Employment

### Assistant Professor

School of Communication and Culture - Cognitive Science  
Aarhus University  
Aarhus C, Denmark  
26 May 2021 → present

### Assistant Professor

Department of Clinical Medicine - Center of Functionally Integrative Neuroscience  
Aarhus University  
Aarhus C, Denmark  
17 Jul 2019 → 1 Aug 2021

### Postdoc

Department of Clinical Medicine - Center of Functionally Integrative Neuroscience  
Aarhus University  
Aarhus C, Denmark  
1 Sep 2016 → 17 Jul 2019

### Postdoc

Department of Clinical Medicine - Neurology  
Aarhus University  
Aarhus N, Denmark  
5 Jun 2015 → 31 Aug 2016

### Scientific assistant

Department of Clinical Medicine - The Department of Neurology  
Aarhus University Hospital  
Aarhus C, Denmark  
1 Feb 2015 → 14 May 2015

### Scientific assistant

School of Culture and Society - Interacting Minds Centre (IMC)  
Aarhus University  
Aarhus C, Denmark  
15 Feb 2014 → 31 Dec 2014

### Phd student

School of Communication and Culture - Linguistics  
Aarhus University  
Aarhus C, Denmark  
1 Feb 2010 → 14 Feb 2014

## Publications

### Handling MEG Data Corrupted with Deep Brain Stimulation Artifacts - Some Pointers

Ganguly, S., Jain, A., Koppula, A., Sasidharan, S., Dattada, V. V. M., Højlund, A. & Sridharan, K. S., 2023, *2023 First International Conference on Advances in Electrical, Electronics and Computational Intelligence (ICAEECI)*. IEEE

### Dopamine dysregulation in Parkinson's disease flattens the pleasurable urge to move to musical rhythms

Pando-Naude, V., Matthews, T. E., Højlund, A., Jakobsen, S., Østergaard, K., Johnsen, E., Garza-Villarreal, E. A., Witek, M. A. G., Penhune, V. & Vuust, P., Jan 2024, In: *European Journal of Neuroscience*. 59, 1, p. 101-118 18 p.

### A Multivariate Method for Dynamic System Analysis: Multivariate Detrended Fluctuation Analysis Using Generalized Variance

Wallot, S., Irmer, J. P., Tschense, M., Kuznetsov, N., Højlund, A. & Dietz, M., 14 Sept 2023, (E-pub ahead of print) In: *Topics in Cognitive Science*. p. 1-18

**Speech comprehension across time, space, frequency, and age: MEG-MVPA classification of intertrial phase coherence**  
Jensen, M., Hyder, R., Westner, B. U., Højlund, A. & Shtyrov, Y., Sept 2023, In: *Neuropsychologia*. 188, 108602.

**Adapting to the Sound of Music - Development of Music Discrimination Skills in Recently Implanted CI Users**

Seeberg, A. B., Trusbak Haumann, N., Højlund, A., Andersen, A. S., F. Faulkner, K., Brattico, E., Vuust, P. & Petersen, B., Jan 2023, In: *Trends in Hearing*. 27

**Structural and functional changes in the retina in Parkinson's disease**

Alves, J. N., Westner, B. U., Højlund, A., Weil, R. S. & Dalal, S. S., Jun 2023, In: *Journal of neurology, neurosurgery, and psychiatry*. 94, 6, p. 448-456 9 p.

**No selective action verb impairment in patients with Parkinson's disease: Evidence from Danish patients reading naturalistic texts, a Commentary on García et al., 2018**

Møller, M. L. H., Høj, S. H., Østergaard, K., Wallentin, M. & Højlund, A., Jan 2023, In: *Cortex*. 158, p. 176-180 5 p.

**Foreign language learning and the mismatch negativity (MMN): A longitudinal ERP study**

Højlund, A., Horn, N. T., Sørensen, S. D., McGregor, W. B. & Wallentin, M., Dec 2022, In: *NeuroImage: Reports*. 2, 4, 100138.

**Musicians show more integrated neural processing of contextually relevant acoustic features**

Hansen, N. C., Højlund, A., Møller, C., Pearce, M. & Vuust, P., Oct 2022, In: *Frontiers in Neuroscience*. 16, 18 p., 907540.

**How Does Deep Brain Stimulation Affect Magnetoencephalography Data?**

Dattada, V. V. M., Sasidharan, S., Højlund, A. & Sridharan, K. S., 2021, *2021 IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics, DISCOVER 2021 - Proceedings*. Institute of Electrical and Electronics Engineers Inc., p. 307-312 6 p. (2021 IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics, DISCOVER 2021 - Proceedings).

**Decomposing neural responses to melodic surprise in musicians and non-musicians: evidence for a hierarchy of predictions in the auditory system**

Quiroga Martinez, D. R., Hansen, N. C., Højlund, A., Pearce, M., Brattico, E. & Vuust, P., 2020, In: *NeuroImage*. 215, 13 p., 116816.

**Applied potential of task-free event-related paradigms for assessing neurocognitive functions in disorders of consciousness**

Møller, M. L. H., Højlund, A., Jensen, M., Gansonre, C. & Shtyrov, Y., 2020, In: *Brain Communications*. 2, 2, p. fcaa087 fcaa087.

**Objective assessment of automatic language comprehension mechanisms in the brain: Novel E/MEG paradigm**

Hyder, R., Højlund, A., Jensen, M., Østergaard, K. & Shtyrov, Y., 2020, In: *Psychophysiology*. 57, 5, 18 p., e13543.

**The CI MuMuFe: A New MMN Paradigm for Measuring Music Discrimination in Electric Hearing**

Petersen, B., Andersen, A. S., Trusbak Haumann, N., Højlund, A., Dietz, M., Michel, F., Kamaric Riis, S., Brattico, E. & Vuust, P., Jan 2020, In: *Frontiers in Neuroscience*. 14, 18 p., 2.

**Reduced prediction error responses in high-as compared to low-uncertainty musical contexts**

Quiroga Martinez, D. R., Hansen, N. C., Højlund, A., Pearce, M., Brattico, E. & Vuust, P., 2019, In: *Cortex*. 120, p. 181-200 20 p.

**Correction to: Visually induced gains in pitch discrimination: Linking audio-visual processing with auditory abilities (Attention, Perception, & Psychophysics, (2018), 80, 4, (999-1010), 10.3758/s13414-017-1481-8)**

Møller, C., Højlund, A., Bærentsen, K. B., Hansen, N. C., Skewes, J. C. & Vuust, P., 1 May 2018, In: *Attention, Perception, and Psychophysics*. 80, 4, p. 1023-1025 3 p.

**Musical prediction error responses similarly reduced by predictive uncertainty in musicians and non-musicians**

Quiroga Martinez, D. R., Hansen, N. C., Højlund, A., Pearce, M., Brattico, E. & Vuust, P., Jun 2020, In: European Journal of Neuroscience. 51, 11, p. 2250-2269

**Functional connectivity of spoken language processing in early-stage Parkinson's disease: An MEG study**

Hyder, R., Jensen, M., Højlund, A., Kimppa, L., Bailey, C. J., Schaldemose, J. L., Kinnerup, M. B., Østergaard, K. & Shtyrov, Y., Jan 2021, In: NeuroImage: Clinical. 32, 14 p., 102718.

**Audiovisual structural connectivity in musicians and non-musicians: a cortical thickness and diffusion tensor imaging study**

Møller, C., Garza-Villarreal, E. A., Hansen, N. C., Højlund, A., Bærentsen, K. B., Chakravarty, M. M. & Vuust, P., 22 Feb 2021, In: Scientific Reports. 11, 1, 14 p., 4324.

**STN-DBS affects language processing differentially in Parkinson's disease: Multiple-case MEG study**

Hyder, R., Højlund, A., Jensen, M., Johnsen, E. L., Østergaard, K. & Shtyrov, Y., Aug 2021, In: Acta Neurologica Scandinavica. 144, 2, p. 132-141 10 p.

**Musicianship and melodic predictability enhance neural gain in auditory cortex during pitch deviance detection**

Quiroga-Martinez, D. R., Hansen, N. C., Højlund, A., Pearce, M., Brattico, E., Holmes, E., Friston, K. & Vuust, P., Dec 2021, In: Human Brain Mapping. 42, 17, p. 5595-5608 14 p.

**Activated N-methyl-D-aspartate receptor ion channels detected in focal epilepsy with [<sup>18</sup>F]GE-179 positron emission tomography**

Vibholm, A. K., Dietz, M. J., Beniczky, S., Christensen, J., Højlund, A., Jacobsen, J., Bender, D., Møller, A. & Brooks, D. J., Dec 2021, In: Epilepsia. 62, 12, p. 2899-2908 10 p.

**Context and perceptual asymmetry effects on the mismatch negativity (MMNm) to speech sounds: an MEG study**

Højlund, A., Gebauer, L., McGregor, W. B. & Wallentin, M., 28 Jan 2019, In: Language, Cognition and Neuroscience. 34, 5, p. 545-560 16 p.

**Task-free auditory EEG paradigm for probing multiple levels of speech processing in the brain**

Gansonre, C., Højlund, A., Leminen, A., Bailey, C. & Shtyrov, Y., 2018, In: Psychophysiology. 55, 11, 18 p., e13216.

**Visually induced gains in pitch discrimination: Linking audio-visual processing with auditory abilities**

Møller, C., Højlund, A., Bærentsen, K. B., Hansen, N. C., Skewes, J. C. & Vuust, P., May 2018, In: Attention, Perception & Psychophysics. 80, 4, p. 999-1010 12 p.

**Differentiated effects of deep brain stimulation and medication on somatosensory processing in Parkinson's disease**

Sridharan, K. S., Højlund, A., Johnsen, E. L., Sunde, N., Johansen, L. G., Beniczky, S. & Østergaard, K., Jul 2017, In: Clinical neurophysiology : official journal of the International Federation of Clinical Neurophysiology. 128, 7, p. 1327-1336 10 p.

**Worsening of Verbal Fluency After Deep Brain Stimulation in Parkinson's Disease: A Focused Review**

Højlund, A., Petersen, M. V., Sridharan, K. S. & Østergaard, K., 27 Nov 2016, In: Computational and Structural Biotechnology Journal. 15, p. 68-74 7 p.

**EP 58. Corticomuscular coherence during isotonic contractions with DBS and medication in PD patients**

Sridharan, K. S., Nielsen, A. H., Johnsen, E. L., Sunde, N., Beniczky, S. & Østergaard, K., 1 Sept 2016, In: Clinical Neurophysiology. 127, 9, p. e198-e199

**Intensive foreign language learning reveals effects on categorical perception of sibilant voicing after only 3 weeks**

Nielsen, A. H., Horn, N. T., Derau Sørensen, S., McGregor, W. & Wallentin, M., 9 Dec 2015, In: i-Perception. 6, 6, p. 1-26 26 p.

**The influence of context on word order processing - an fMRI study**

Kristensen, L. B., Engberg-Pedersen, E., Nielsen, A. H. & Wallentin, M., 2013, In: Journal of Neurolinguistics. 26, 1, p. 73-88 14 p.

**Action speaks louder than words: Empathy mainly modulates emotions from theory of mind-laden parts of a story**

Wallentin, M., Simonsen, A. & Nielsen, A. H., 2013, In: Scientific Study of Literature. 3, 1, p. 137-153

**Amygdala and heart rate variability responses from listening to emotionally intense parts of a story**

Wallentin, M., Nielsen, A. H., Vuust, P., Dohn, A., Roepstorff, A. & Lund, T. E., 2011, In: NeuroImage. 58, 3, p. 963-973 11 p.

**BOLD response to motion verbs in left posterior middle temporal gyrus during story comprehension**

Wallentin, M., Nielsen, A. H., Vuust, P., Roepstorff, A., Dohn, A. & Lund, T. E., 2011, In: Brain and Language. 119, p. 221-225

**Eye movement suppression interferes with construction of object-centered spatial reference frames in working memory**

Wallentin, M., Kristensen, L. B., Olsen, J. H. & Nielsen, A. H., 2011, In: Brain and Cognition. 77, p. 432-437

**The Musical Ear Test, a new reliable test for measuring musical competence**

Wallentin, M., Nielsen, A. H., Friis-Olivarius, M., Vuust, C. & Vuust, P., 2010, In: Learning and Individual Differences. 20, p. 188-196