

## Curriculum Vitae of Ashley Lewis

### Personal and Contact Details

Full Name: Dr. Ashley Glen Lewis Telephone: +31 06 1124 1960  
Date of Birth: 8 January 1985 Email: a.lewis@donders.ru.nl  
Marital Status: Single

### Education

#### Research Positions

Donders Institute for Brain, Cognition and Behaviour, Centre for Cognitive Neuroimaging  
Duration: July 2018 - present  
Department: Predictive Brain Lab  
Position: Postdoc

Haskins Laboratories  
Duration: December 2015 – June 2018  
Department: Comprehension Lab  
Position: Postdoctoral Research Associate

Max Planck Institute for Psycholinguistics: IMPRS for Language Sciences  
Duration: September 2012 - 2015  
Department: Neurobiology of Language  
Position: PhD Student

Donders Institute for Brain, Cognition and Behaviour, Centre for Cognitive Neuroimaging  
Duration: September 2012 - 2015  
Department: Neurobiology of Language  
Position: PhD Student

#### Tertiary Education

Radboud University Nijmegen  
Duration: September 2012 – May 2017  
PhD (Cognitive Neuroscience; Psycholinguistics)  
Thesis Title: Explorations of beta-band neural oscillations: sentence processing and beyond  
Supervisors: Prof. Herbert Schriefers, Dr Marcel Bastiaansen, and Dr Jan-Mathijs Schoffelen

Radboud University Nijmegen  
Duration: September 2010 – August 2012  
Master of Science (Cognitive Neuroscience) Bene Meritum  
Thesis Title: The role of oscillatory neuronal dynamics in discourse-level semantic unification  
Supervisors: Prof. Herbert Schriefers, and Dr Marcel Bastiaansen

University of KwaZulu-Natal (UKZN)  
Duration: February 2009 – December 2009  
Bachelor of Arts (Hons) (Cognitive Science) Summa Cum Laude

University of KwaZulu-Natal  
Duration: February 2004 – December 2008  
Bachelor of Arts (Cognitive Science) Cum Laude

## Exceptional Academic Achievements

### **Max Planck Institute for Psycholinguistics**

2012      Awarded International Max Planck Research School PhD Fellowship (3 years)

### **Radboud University Nijmegen**

2010      Awarded HSP Huygens Scholarship for research Master's degree (2 years)

### **University of KwaZulu-Natal**

2009      Awarded NRF Post-graduate Academic Merit Scholarship at UKZN

2009      Awarded NRF Honours Free-Standing Scholarship at UKZN

## Teaching Experience

### **University of Connecticut**

2017      Designed and taught 2 50-50 theory-practical sessions on electrophysiological data analysis and neural oscillations using the FieldTrip toolbox for graduate students and faculty at J-Term.

### **Donders Institute for Brain, Cognition and Behaviour, Centre for Cognitive Neuroimaging**

2015      Tutored for Tool-kit of Cognitive Neuroscience: Advanced Analysis and Source Modeling of EEG and MEG Data

### **University of KwaZulu-Natal**

2010      Coordinated and taught parts of Linguistics 101, a first year university course

2009      Tutored Linguistics 102 and Linguistics 302

2009      Tutored Philosophy 101

## Leadership & Responsibilities

2011-2012 Senior Editor for Psycholinguistics at Proceedings of the Cognitive Neuroscience Master of the Radboud University – a student run journal

2010-2011 Assistant Editor for Psycholinguistics at Proceedings of the Cognitive Neuroscience Master of the Radboud University

## Technical Skillset

Programming: Excellent programming skills with MatLab

Intermediate programming skills with C++, Psychopy, and Presentation

Basic programming skills with Python, Perl, E-Prime, Experiment Builder, and R

Statistics: Extensive experience working with non-parametric cluster based permutation statistics

Experience working with signal-detection theory

Working knowledge of linear mixed-effects modelling

Mathematical: Mathematical knowledge up to the first year undergraduate level of calculus and linear algebra

Theoretical knowledge and hands-on experience with Fourier transforms and the relation of general linear models to neuroimaging data

Relevant knowledge related to signal processing and electrophysiology

Neuroimaging: Experience working with and in depth knowledge of electrophysiological (EEG and MEG)

brain data (ERPs/ERFs, Time-Frequency Analysis, Independent Components Analysis, Source Reconstruction)

Intermediate knowledge of multi-voxel pattern analysis and the application of machine learning techniques to electrophysiological and fMRI data

Experimental: Extensive experience designing psycholinguistic experiments  
Design

Computational: Modelling of spike-time dependent plasticity (STDP) and its effect on gamma  
Modelling oscillations in a pyramidal interneuronal gamma (PING) model

## Publications

### 2018

Lewis, A. G., Schriefers, H., Bastiaansen, M., & Schoffelen, J. (2018). Assessing the utility of frequency tagging for tracking memory-based reactivation of word representations. *Scientific Reports*, 8, 7897.

### 2017

Lewis, A. G. (2017). Explorations of beta-band neural oscillations: sentence processing and beyond. PhD Thesis, Radboud University Nijmegen, Nijmegen.

### 2016

Lewis, A. G., Lemhöfer, K., Schoffelen, J., & Schriefers, H. (2016). Gender agreement violations modulate beta oscillatory dynamics during sentence comprehension: A comparison of second language learners and native speakers. *Neuropsychologia*, 89, 254-272.

Lewis, A. G., Schoffelen, J., Hoffmann, C., Bastiaansen, M., & Schriefers, H. (2016). Discourse-level semantic coherence influences beta oscillatory dynamics and the N400 during sentence comprehension. *Language, Cognition and Neuroscience*, 32, 601-617.

Lewis, A. G., Schoffelen, J., Schriefers, H., & Bastiaansen, M. (2016). A predictive coding perspective on beta oscillations during sentence-level language comprehension. *Frontiers in human neuroscience*, 10.

### 2015

Lewis, A. G., & Bastiaansen, M. (2015). A predictive coding framework for rapid neural dynamics during sentence-level language comprehension. *Cortex*, 68, 155-168.

Lewis, A. G., Wang, L., & Bastiaansen, M. (2015). Fast oscillatory dynamics during language comprehension: Unification versus maintenance and prediction? *Brain and language*, 148, 51-63.

Moreno, I., De Vega, M., León, I., Bastiaansen, M., Lewis, A. G., & Magyari, L. (2015). Brain dynamics in the comprehension of action-related language. A time-frequency analysis of mu rhythms. *Neuroimage* 109, 50-62.

## Presentations

Lewis, A. G. (2018). 'We' even try to predict the unpredictable: Language, neural oscillations, and predictive coding. Talk presented at Current Issues in Predictive Language Processing Workshop 2018, Nijmegen, The Netherlands.

Lewis, A. G. (2018). Active antecedent search in cataphora processing: Insights from neural oscillations. Poster presented at AMLAP Conference 2018, Berlin, Germany.

Lewis, A. G. (2017). EEG preprocessing and ERPs using FieldTrip. Talk presented at University of Connecticut [J-Term]. Storrs, USA.

Lewis, A. G. (2017). Time-frequency analysis using FieldTrip. Talk presented at University of Connecticut [J-Term]. Storrs, USA.

Lewis, A. G., Van Dyke, J. A. (2017). Alpha and theta power are sensitive to semantic but not syntactic retrieval interference. Poster presented at Society for the Neurobiology of Language Conference 2017, Baltimore, MD, USA.

Lewis, A.G., Van Dyke, J. A. (2017). Ability to ignore syntactic and semantic distractors during sentence reading: Evidence from neural oscillations. Spoken paper presented at Society for the Scientific Study of Reading Conference 2017, Halifax, Canada.

Lewis, A. G., Van Dyke, J. A. (2017). Oscillatory neural signatures of syntactic and semantic retrieval interference. Poster presented at CUNY Sentence Processing Conference 2017, MIT, Cambridge, MA, USA.

Lewis, A. G. (2016). Exploring oscillatory neural dynamics in the beta frequency range during language comprehension beyond the word level. Talk presented at Haskins Laboratories [Staff Talk]. New Haven, USA.

Lewis, A. G. (2015). Using neural oscillations to investigate semantic and syntactic processing. Talk presented at University of KwaZulu-Natal, Linguistics Department [Invited Seminar]. Durban, South Africa.

Lewis, A. G., Schoffelen, J., Bastiaansen, M. C. M., & Schriefers, H. (2014). Discourse-level semantic unification: ERPs and oscillatory neuronal dynamics. Poster presented at Donders Discussions 2014, Nijmegen, NL.

Lewis, A. G. (2013). Neuronal oscillations in discourse comprehension. Talk presented at the University of KwaZulu-Natal, Linguistics Department [Invited Seminar]. Durban, South Africa.

Lewis, A. G. (2012). Integrating timescales: Investigating oscillatory neuronal dynamics during unfolding short discourses. Talk presented at Donders Discussions 2012. Nijmegen, NL.

## Research Visits

Max Planck Institute for Psycholinguistics  
Department: Psychology of Language  
Duration: 9 - 17 May 2017  
Host: Dr. Suzanne Jongman