

Résumé

Personal history

Name: Anke Sambeth
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Date of birth: June 16, 1977

Research positions

Since January 2011	Docent at the faculty of Behavioural Sciences, University of Helsinki, Helsinki, Finland
Since July 2010	Assistant professor at the department of Neuropsychology and Psychopharmacology, Maastricht University, Maastricht, the Netherlands
Since May 2008	Research fellow at the BioMag Laboratory of Helsinki University Central Hospital, Finland
July 2005 – June 2010	Post-doctoral position at the department of Neuropsychology and Psychopharmacology, Maastricht University, Maastricht, the Netherlands Project: Mixed memories: On the role of different neurotransmitters in memory processing (since July 2007 under VENI grant nr. 451-07-011).
February 2004 – June 2005	Post-doctoral position at the Cognitive Brain Research Unit, University of Helsinki, Finland Main project: The attentive newborn, studies on cognitive auditory processes, studied with MEG
December 1999 – January 2004	PhD study at the dept. of Biological Psychology, University of Nijmegen, defended on October 14, 2004 Thesis title: Studies on the effects of learning on the event-related potential. A between species comparison (human vs. rat).
1999	Research assistant for EEG experiments with psychiatric patients at Psychiatric hospital Coudewater, Rosmalen, The Netherlands.
1998	Research assistant in the study of the genetic background of epilepsy at the department of Biological Psychology, Nijmegen, The Netherlands.

Grants and Fellowships

- 2010 NWO/ZonMW Translational research grant for the role of PDE4 inhibition in human memory (€ 265.000), for the period January 2011-December 2013.
Co-applicant (main applicant dr. Jos Prickaerts and co-applicants dr. Arjan Blokland and prof. Frans Verhey)
- 2009 Helsinki University Hospital Research Fund (Finland) for the project: 'Memory impairment during chronic pain: a combined EEG and MEG study' (€ 20.000), for the period January – December 2009.
Co-applicant (main applicant dr. Seppo Kähkönen and co-applicant BSc Eini Knuutinen, Helsinki University Central Hospital, Finland).
- 2009 Helsinki University Hospital Research Fund (Finland) for the project: 'Effects of remifentanyl on brain function: an EEG/MEG study' (€ 40.000) for the period January 2009 – December 2010.
Co-applicant (main applicant prof. dr. Eija Kalso and co-applicants dr. Sinikka Münte and dr. Seppo Kähkönen, Helsinki University Central Hospital, Finland).
- 2008 Joint Forces Network Grant by the Netherlands Organization for Scientific Research (grant nr. 433-09-118), to organize a workshop on 'epigenetic determinants of memory' (€ 10.000).
Co-applicant (main applicant prof. dr. Wim Riedel and co-applicants dr. Arjan Blokland, dr. Jos Prickaerts, dr. Günter Kenis, dr. Daniel van den Hove, dr. Eric Vuurman from Maastricht University, dr. Martijn Meeter and dr. Danielle Posthuma from the Free University Amsterdam).
- 2008 Contract research in collaboration with Hoffman-La Roche (Basel, Switzerland) investigating the possibility to use the 'contingent negative variation' as a marker for dopaminergic activity, November 2008 – November 2012 (€ 350.000).
Other team members dr. Eric Vuurman, prof. dr. Wim Riedel
- 2008 Pilot project from the 'Internationale Stichting Alzheimer Onderzoek' for the project: 'Mixed memories: neurotransmitter interactions in memory', for the period November 2008 – November 2010 (€ 27.652).
- 2008 Rafaelsen Young investigator award, travel grant for the 26th CINP conference in Munich (Germany) (€ 1.000).
- 2008 Fellowship from the 'Internationale Stichting Alzheimer Onderzoek' for the project: 'Do neurotransmitters interact in memory processing?', for the period April – June 2008 (€ 2.334).
- 2007 Innovational Research Incentives Scheme obtained from the Netherlands Organization for Scientific Research (VENI grant nr. 451-07-011) for the period July 2007 – June 2010. Project: Mixed memories: On the role of different neurotransmitters in memory processing (€ 208.000).
- 2006 Consultancy for Glaxo-Smith-Kline, Cambridge, UK, to analyse EEG data obtained in a single ascending dose study (€ 60.000)
- 2006 FENS travel grant for the 5th FENS Forum in Vienna, Austria (€ 750).
- 2005 Fellowship within the European Science Foundation EUROCORES Programme OMLL, supported by funds from the Academy of Finland and the EC Sixth Framework Programme. Received to study cognitive processes in the newborn's auditory system (€ 10.000).
- 2004 Grant by the Cognitive Brain Research Unit, University of Helsinki, Finland. Received to study cognitive processes in the newborn's auditory system (€ 6.000).
- 2004 Fellowship from the Centre for International Mobility of Finland. Received to study cognitive processes in the newborn's auditory system (€ 6.000).

Research topics/projects

- The neurobiology of memory. EEG (in both humans and rats), MEG, and fMRI (latter two humans only) are recorded to examine the interactive role of acetylcholine and serotonin in memory processes.
- The role of epigenetics in human memory. We intend to assess various memory types in a cohort of 2000 healthy volunteers and to correlate these measures with gene variations regulating epigenetics. Additionally, fMRI during a verbal learning test will be recorded in this cohort.
- Markers of dopamine functions in the brain. EEG is measured in healthy volunteers during various information processing types, with special emphasis on the contingent negative variation and on memory.
- Biomarkers of schizophrenia. Here we examine potential endophenotypes of psychosis, such as the P50, MMN, Learned Irrelevance, and other EEG measures.
- The attentive newborn. MEG is recorded while newborns are presented with various kinds of auditory stimulation. It is assessed how attentive the newborn brain is. This project is carried out in Helsinki, Finland.
- Memory in anaesthesia and chronic pain. MEG is recorded during various memory paradigms with the aim to unravel the neuronal underpinnings of memory decline in chronic pain patients and decreased cognitive processing under anaesthesia. These projects are carried out in Helsinki, Finland.

Conference / Symposium / Workshop organisations

2009	Workshop on Epigenetic programming of memory, NWO Joint Forces Networks program, Maastricht, the Netherlands
2007	The mismatch negativity, auditory processing and perception, 6 th Dutch EndoNeuroPsychoMeeting in Doorwerth, the Netherlands
2003	Cognitive potentials in humans and animals, 2 nd Dutch EndoNeuroPsychoMeeting in Doorwerth, the Netherlands.

Teaching responsibilities short

Supervision of PhD students:

- Since 2011 Joep Wolters (promotor prof. dr. Wim Riedel and other co-promotor Rudolf Ponds), on the role of dopamine in ADHD
- Since 2008 Inge Klinkenberg (promotor prof. dr. Wim Riedel and other co-promotor dr. Arjan Blokland), on the role of muscarinic receptors in cognition
- Since 2008 Anke Linssen (promotor prof. dr. Wim Riedel and other co-promotor dr. Eric Vuurman), on the role of dopamine in functions of the thalamo-cortico-striatal network such as executive functioning and psychomotor performance

Supervision of various Masters Students on topics such as brain correlates of memory and the role of neurotransmitters in memory

Courses at Maastricht University

- From April 2011 Coordinator of the 1st year Bachelor course 'Learning and Memory'
- From September 2008 Coordinator of the Research Master course 'Biological Psychology'
- 2008 Coordinator of the Research Master course 'Electrophysiology: from single cell activity to 'cognitive' markers'
- Since July 2005 Tutor at various courses in the bachelor and (research) master programs, for example Body and Behaviour and Psychopharmacology

Relevant post-graduate education

- Leadership skills Steep Face, development of leadership (Maastricht, 2011)
- Language / Acquisition Power for Researchers (Maastricht, 2006)
- Writing skills Academic Writing (Nijmegen, 2002)
- Oral Presentation (Nijmegen, 2002)
- Advanced Conversation (Nijmegen, 2001)
- Research skills Functional Magnetic Resonance Imaging (Utrecht, 2001; Nijmegen, 2002)
- Helsinki Winter School in Cognitive Neuroscience, Cognitive Brain Research Unit, chair Risto Näätänen (Finland, 2003 and 2005)
- The Tool-kit of Cognitive Neuroscience, F.C. Donders Centre for Cognitive Neuroimaging, chair Peter Hagoort (Nijmegen, 2003)
- Course on vena puncture (Maastricht, 2005)
- Course on placing catheters to draw blood (Maastricht, 2007)
- Course on good clinical practice (Basiscursus Regelgeving en Organisatie van Klinisch onderzoek) (Maastricht, 2008)
- Analysis skills Multivariate analysis of variance (Nijmegen, 2002)
- Educational skills Didactics for teaching personnel at university (Maastricht, 2010). This is a national certificate called 'Basis Kwalificatie Onderwijs'
- Didactics in practice (Nijmegen, 2003)

Ad-hoc reviewer for

Brain Research; Brain Research Bulletin; Clinical Neurophysiology; European Journal of Pharmacology; Journal of Psychopharmacology; Neurobiology of Learning and Memory; Neuroscience and Biobehavioral Reviews; Neuroscience Letters; Physiology and Behavior; Psychoneuroendocrinology; Psychophysiology

Publications

- International refereed journals

23. Linssen, A. M. W., Vuurman, E. F., Sambeth, A., Nave, S., Spooren, W., Vargas, G., Santarelli, L., & Riedel, W. J. (in press). Contingent negative variation as a dopaminergic biomarker: evidence from dose-related effects of methylphenidate. *Psychopharmacology*.
22. Simons, C. J.P., Sambeth, A., Krabbendam, L., Pfeifer, S., Van Os, J., & Riedel, W.J. (in press). Auditory P300 and N100 components as intermediate phenotypes for psychotic disorder: familial liability and reliability. *Clinical Neurophysiology*.
21. Klinkenberg, I., Sambeth, A., & Blokland, A. (2011). Acetylcholine and attention. *Behavioral Brain Research*, 221, 430-442.
20. Linssen, A. M. W., Riedel, W. J., & Sambeth, A. (2011). Effects of tyrosine/phenylalanine depletion on electrophysiological correlates of memory in healthy volunteers. *Journal of Psychopharmacology*, 25, 230-238.
19. Evers, E.A., Sambeth, A., Ramaekers, J.G., Riedel, W.J., & van der Veen, F.M. (2010). The effects of acute tryptophan depletion on brain activation during cognition and emotional processing in healthy volunteers. *Current Pharmaceutical Design*, 16, 1998-2011.
18. Van Ruitenbeek, P., Sambeth, A., Vermeeren, A., Young, S. N., & Riedel, W. J. (2009). Effects of L-histidine depletion and tyrosine/phenylalanine depletion on sensory and motor processes in healthy volunteers. *British Journal of Pharmacology*, 157, 92-103.
17. Mendelsohn, D., Riedel, W. J., & Sambeth, A. (2009). Effect of acute tryptophan depletion on memory, attention, and executive functions: A systematic review. *Neuroscience and Biobehavioral Reviews*, 33, 926-952.
16. Sambeth, A., Meeter, M., & Blokland, A. (2009). Hippocampal theta frequency and novelty. *Hippocampus*, 19, 407-408.
15. Van Ruitenbeek, P., Vermeeren, A., Smulders, F. T. Y., Sambeth, A., & Riedel, W. J. (2009). Histamine H1 receptor blockade predominantly impairs sensory processes in human sensorimotor performance. *British Journal of Pharmacology*, 157, 76-85.
14. Sambeth, A., Pakarinen, S., Ruohio, K., Fellman, V., van Zuijen, T. L., & Huotilainen, M. (2009). Change detection in newborns using a multiple deviant paradigm: a study using magnetoencephalography. *Clinical Neurophysiology*, 120, 530-538.
13. Sambeth, A., Riedel, W.J., Tillie, D.E., Blokland, A., Postma, A., & Schmitt, J.A.J. (2009). Specific memory impairments after acute tryptophan depletion using a novel gelatin-based protein. *Journal of Psychopharmacology*, 23, 56-65.
12. Sambeth, A., Ruohio, K., Alku, P., Fellman, V., & Huotilainen, M. (2008). Sleeping newborns extract prosody from continuous speech. *Clinical Neurophysiology*, 119, 332-31.
11. Nevalainen, P., Lauronen, L., Sambeth, A., Wikstrom, H., Okada, Y., & Pihko, E. (2008). Somatosensory evoked magnetic fields from the primary and secondary somatosensory cortices in healthy newborns. *NeuroImage*, 40, 738-745.
10. Sambeth, A., Riedel, W.J., Smits, L.Ph., & Blokland, A. (2007). Cholinergic drugs affect novel object recognition in rats: Relation with hippocampal EEG? *European Journal of Pharmacology*, 572, 151-159.
9. Sambeth, A., Blokland, A., Harmer, C. J., Kilkens, T. O. C., Nathan, P. J., Porter, R. J., Schmitt, J. A. J., Scholtissen, B., Sobczak, S., Young, A. H., &

- Riedel, W. J. (2007). Sex differences in the effect of acute tryptophan depletion on declarative episodic memory: a pooled analysis of nine studies. *Neuroscience & Biobehavioral Reviews*, 31, 516-529.
8. Sambeth, A., & Maes, J. H. R. (2006). A comparison of event-related potentials of humans and rats elicited by a serial feature-positive discrimination task. *Learning and Motivation*, 37, 269-288.
 7. Sambeth, A., Huotilainen, M., Kushnerenko, E., Fellman, V., & Pihko, F. (2006). Newborns discriminate novel from harmonic sounds: a study using magnetoencephalography. *Clinical Neurophysiology*, 117, 496-503.
 6. Pihko, E., Sambeth, A., Leppänen, P. H. T., Okada, Y., & Lauronen, L. (2004). Auditory evoked magnetic fields to speech stimuli in newborns – effect of sleep stages. *Neurology and Clinical Neurophysiology*, 6, 1-5.
 5. Sambeth, A., Maes, J. H. R., Quian Quiroga, R., & Coenen, A. M. L. (2004). Effects of stimulus repetitions on the event-related potential of humans and rats. *International Journal of Psychophysiology*, 53, 197-205.
 4. Sambeth, A., Maes, J. H. R., & Brankač, J. (2004). With long intervals, inter-stimulus interval is the critical determinant of P300 amplitude. *Neuroscience Letters*, 359, 143-146.
 3. Sambeth, A., Maes, J. H. R., Quian Quiroga, R., Van Rijn, C. M., & Coenen, A. M. L. (2004). Enhanced re-habituation of the orienting response of the human event-related potential. *Neuroscience Letters*, 356, 103-106.
 2. Sambeth, A., Maes, J. H. R., Van Luijtelaar, G., Molenkamp, I. B. S., Jongsma, M. L. A., & Van Rijn, C. M. (2003). Auditory event-related potentials in humans and rats: effects of task manipulation. *Psychophysiology*, 40, 60-68.
 1. Jongsma, M. L. A., Van Rijn, C. M., Van Egmond, J. Van Schaijk, W. J., Sambeth, A., & Coenen, A. M. L. (2000). The influence of diazepam on the electroencephalogram-evoked potential interrelation in rats. *Neuroscience Letters*, 293, 83-86.

- Books, or contributions to books

2. Sambeth, A. (2004). *Studies on the effects of learning on the event-related potential. A between species comparison*. Dissertation, Radboud University Nijmegen.
1. Sambeth, A., Maes, J. H. R., Van Luijtelaar, E. L. J. M., & Van Rijn, C. M. (2002). Effects of diazepam on traditionally and non-traditionally studied components of the human event-related potential (pp. 100-104). In Van Bommel, A. L., Beersma, D. G. M., Hofman, W. F., Ruigt, G. S. F., & Vos, P. J. E. (Eds.). *Sleep Wake Research in the Netherlands*, vol 13.

Invited talks / Oral presentations at conferences

Conference on mismatch negativity and its clinical applications, Budapest, Hungary, April 2009.

Figon Dutch Medicine Days 2008, Lunteren, the Netherlands, October 2008.

Dutch EndoNeuroPsychoMeeting, Doorwerth, the Netherlands, June 2008.

British Association for Behavioral and Cognitive Psychotherapies, Brighton, UK, June 2007.

Applied Neuroscience for Healthy Brain Function, Nijmegen, the Netherlands, May 2007.

Dutch EndoNeuroPsychoMeeting, Doorwerth, the Netherlands, June 2006.

Forschungszentrum Jülich, Germany, January 2005.

BioMag Laboratory, Helsinki University Central Hospital, Helsinki, Finland, March 2004.

University of Amsterdam, the Netherlands, December 2003.

NvPf winter conference, Amsterdam, the Netherlands, November 2003.

Ouwehands Dierenpark, Rhenen, the Netherlands, July 2002.

Forschungszentrum Jülich, Germany, 2000.