Carina Pals, PhD

Assistant Professor (Lecturer)

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Profile

Currently teaching cognitive psychology and related subjects at the University of Utah Asia Campus, looking to expand my research network in Korea and find opportunities for collaboration.
Scientific interests: auditory perception and cognition, speech understanding in challenging listening conditions, listening effort, non-native listeners, hearing impairment, and cochlear implants.
Background and Experience in:

→ Multidisciplinary research fields combining cognitive science and technology; auditory cognition, language and speech technology, and artificial intelligence.
→ International and culturally diverse research environments, working with clinicians, research participants, and hearing-impaired patients of various educational and socio-economic backgrounds.
→ Teaching undergraduate Psychology students from a wide range of backgrounds and nationalities topics ranging from linguistics, perception, research methods, and cognitive psychology.
→ Supervising both bachelor and master students on research projects related to my expertise.

Education

2010 – 2016 PhD in Auditory Perception and Cognition
University Medical Center Groningen, The Netherlands
Department of Otorhinolaryngology (Audiology)
University of Groningen, The Netherlands
Graduate School of Medical Sciences
School of Behavioral and Cognitive Neuroscience

→ Research Project Title: "Listening Effort in Cochlear Implant Users"
- Description: Listening effort refers to the cognitive processing involved in hearing and the increase in processing demand when listening becomes more challenging.
- Goal: find reliable measures of listening effort and identify potential strategies for improving listening effort for cochlear implant users.
- Methods: behavioral studies (e.g. dual-task paradigm, sentence verification, and verbal response-times), with normal-hearing participants and cochlear implant users.

2008 Master of Science in Artificial Intelligence (combined bachelor & master degree)
University of Groningen, The Netherlands

→ Specialization: Language and Speech Technology
→ Master's Research Project (2008)
- Title: "Detection and Recognition Thresholds of Sound Sources in Noise"
- Auditory Cognition Group, University of Groningen, The Netherlands
- Description: A listening experiment with normal hearing listeners to determine thresholds for detection and recognition of environmental sounds in noise.
- Presented as a poster at CogSci 2009.

→ Research Project (2004)
- Title "An Optimality Theory Model of Perceived Grouping in Music."
- Center for Language and Cognition, University of Groningen, The Netherlands
- Description: A web-based experiment to collect data for modeling human perception of grouping in music using Optimality Theory.

Carina Pals, MSc

Teaching & Student Supervision

2017 – present Teaching: undergraduate Psychology courses: Cognitive Psychology, Cognitive Neuropsychology, Sensation and Perception, Special topic: Language and Speech, Memory and Cognition in Everyday Life, Human Factors & Ergonomics, Psychology as a Science and Profession

2016 Teaching: Guest lectures "Phonology" as part of the 1st year bachelor Artificial Intelligence course "General linguistics" (120 students)

2016 Teaching: Guest lecture "Auditory attention" as part of the 3rd year bachelor Psychology course "Attention and Cognition" (30 students)

2016 Teaching & supervision: 2nd year bachelor Psychology course "Research practicum": teach about research practices and academic writing & supervise the writing of a research paper. (3 groups of 5 students each).

2016 Supervision: 3rd year bachelor Psychology Research project & Bachelor theses (6 students):
- → Topic: the effect of familiar accented foreign speech on intelligibility and listening effort
- → Supervision: Guide the students in the design and execution of their own experiment, provide feedback on individual thesis writing, grade final thesis & growth of the students.
- → Will be submitted as an abstract for a conference

2016 Supervision: 3rd year bachelor Psychology Research project & Bachelor theses: (6 students):
- → Topic: the effect of masker language on speech perception and listening effort
- → Supervision: Guide the students in the design and execution of their own experiment, provide feedback on individual thesis writing, grade final thesis & growth of the students.

2013 Supervision: Italian Erasmus Exchange Master Student Psychology, M. Baldessarini
Research internship
- → Title: "Listening effort and speech response times"
- → Supervision: Involve the student in the design and running of the experiment, provide feedback on internship report and end presentation.

2013 Supervision: German Bachelor Student Psychology, M. Haulke
Voluntary Research internship
- → Title: "The Sentence Verification Task as a Measure of Listening Effort"
- → Student Involvement: Data collection for an already designed experiment.
- → Supervision: Explaining the design, provide training, answer questions, show data analysis,

2012 Supervision: Dutch Master Student Behavioral and Cognitive Neuroscience, M. van Dijk
Master's research project
- → Title: "Listening Effort with Simulated Cochlear-Implant Electric-Acoustic Stimulation"
- → Description: Research project examining the effect of low frequency acoustic sound in addition cochlear implant simulated sound on listening effort.
- → Supervision: Encourage intellectual contribution of the student in the study design, provide training in skills required for running the experiments, provide feedback on the project presentation and thesis, evaluate the quality of the final version of the thesis and the quality of the work overall.
- → This project will be published with the student as a coauthor (in preparation)

2011 Teaching & Supervision: 1st year International Bachelor of Medicine, Global Health profile, Block 1.2, self-directed, problem-based learning tutorial group

→ Description: Each week a case relevant to the topic discussed in the regular classes is discussed, divided into sub-problems, and pairs of students present the solution to their sub-problem in the next meeting. The other students provide feedback regarding the correctness, completeness, and quality of the presentation.
→ Tutor responsibilities: guard the group-process,
  - encourage: active participation, sufficient contribution, fair evaluation of peers,
  - evaluate: student performance, 'professionalism', progress over the course of the block.

Publications & Presentations

Peer-reviewed journal articles

Pals, C., Sarampalis, A., Beynon, A., Stainsby, T., & Başkent, D. (2020). "Effect of spectral resolution on speech intelligibility, comprehension, and listening effort in cochlear-implant users." Trends in Hearing, 24, 1-15. https://doi.org/10.1177/2331216520904617

Pals, C., Sarampalis, A., van Dijk, M., & Başkent, D. (2019). "Effects of Additional Low-Pass–Filtered Speech on Listening Effort for Noise-Band–Vocoded Speech in Quiet and in Noise" Ear and Hearing, 40, 3-17

Baskent, D., Clarke, J., Pals, C., Benard, M. R., Bhargava, P., Saija, J. D., … Gaudrain, E. (2016). "Cognitive compensation of speech perception in hearing loss: How and to what degree can it be achieved?" Trends in Hearing. 20, 1-16.

Pals, C., Sarampalis, A., van Rijn, H., & Başkent, D. (2015). "Validation of a simple response-time measure of listening effort." Journal of the Acoustical Society of America, 138(3), EL187-EL192. DOI: 10.1121/1.4929614

Pals, C., Sarampalis, A., & Başkent, D. (2013). "Listening Effort with Cochlear Implant Simulations." Journal of speech, language, and hearing research: JSLHR, 4388. doi:10.1044/1092-4388(2012/12-0074)

Other papers and conference proceedings

Wagner, A., Pals, C., de Blecourt, C., Sarampalis, A., & Başkent, D. (2016). "Does signal degradation affect top-down processing of speech?" In P. van Dijk, D. Başkent, E. Gaudrain, E. de Kleine, A. Wagner, & C. Lanting (Eds.), Physiology, Psychoacoustics and Cognition in Normal and Impaired Hearing. (Vol. 894, pp. 297-306).

Başkent, D., Bhargava, P., Saija, J., Clarke, J., Benard., M.R., Pals, C., Sarampalis, A., Wagner, A., Gaudrain, E. (2015). "Cognitive compensation of speech perception in hearing loss: How and to what degree can it be achieved?" International Symposium on Auditory and Audiological Research (ISAAR), Topic: Individual hearing loss - Characterization, modeling, compensation strategies. Copenhagen, Denmark. (Advances in Experimental Medicine and Biology; No. 894). Springer. DOI: 10.1007/978-3-319-25474-6_31

Andringa, T., & Pals, C. (2009). "Detection and Recognition Threshold of Sound Sources in Noise." In N. Taatgen & H. van Rijn (Eds.), Proceedings of the Thirty-First Annual Conference of the Cognitive Science Society (pp. 1798–1803). the Congitive Science Society. Paper presented as a poster at the Annual Meeting of the Cognitive Science Society 2009, Amsterdam.

Hendriks, P., Hendrickx, S., Looije, R., & Pals, C. (2005). "Hoe perfect is ons taalsysteem? Een bidirectionele OT-analyse van de verwerving van klemtoonverschuiving." ("How perfect is our language system? A bidirectional OT analysis of the acquisition of stress shift.") Tabu 34:1/2, 71-97.

Abstracts & Proceedings in International Conferences

Pals, C., Wagner, A. , Sarampalis, A., & Başkent, D. (2014) "Listening effort in bimodal cochlear implant users." Snapshot-presentation at the International Conference on Cochlear Implants and Other Implantable Auditory Technologies, Munich, Germany

Pals, C. (2014) "Listening effort in Cochlear Implant users." Podium as part of the invited symposium "Recent Developments in Cochlear Implant Research" at the 37th ARO MidWinter Meeting, San Diego, CA, USA.

Pals, C., Sarampalis, A., & Başkent, D. (2013). "Effects of number of electrodes on listening effort in cochlear implant users." Poster presented at the Conference on Implantable Auditory Prostheses 2013, Lake Tahoe, CA, USA.

Pals, C., Sarampalis, A., & Başkent, D. (2013). "Listening Effort with Cochlear Implants. Poster presented at the Second International Conference on Cognitive Hearing Science for Communication in Linköping, Sweden.

Pals, C., van Dijk, M., Sarampalis, A., & Başkent, D. (2013) "Listening Effort with Simulated Cochlear Implant Hearing and Electric Acoustic Stimulation – Effects of Noise on Response Time." Poster presented at the 36th ARO MidWinter Meeting, Baltimore, MD, USA

Carina Pals, MSc

Pals, C., van Dijk, M., Sarampalis, A., & Başkent, D. (2012). "A dual-task paradigm as an objective measure of listening effort with cochlear implant simulations." Podium presentation (upgraded from Poster to Podium), 7th Int. Symp. Objective Measures in Auditory Implants, Amsterdam, NL.

Pals, C., Sarampalis, A., & Başkent, D. (2011) "Listening Effort with Cochlear Implants and Electric Acoustic Stimulation: A Simulation Study." Poster presented at the Conference on Implantable Auditory Prostheses 2011, Pacific Grove, CA, USA.

Local/National meetings

Pals, C. (2018) Cognition and hearing: Listening effort. Hallym University of Graduate Studies, Hearing Aids seminar, Seoul, South Korea.

Pals, C. (2015) Luisterinspanning: wat spraaktests ons niét vertellen. OOR-NO Nascholingsdag Audiologen, ("Listening effort, that which is not revealed by speech tests" OOR-NO Training day for Audiologists), University Medical Center Groningen, the Netherlands

Pals, C., Sarampalis, A., & Başkent, D. (2012) Luisterinspanning met cochleaire implantaten. 220e Algemene Vergadering Nederlandse Vereniging voor Keel-Neus-Oorheelkunde en Heelkunde van het Hoofd-Halsgebied, ("Listening effort with Cochlear Implants" 220th meeting of the Dutch association for Otorhinolaryngology.) Nieuwegein, the Netherlands.

Carina Pals, Mart van Dijk, Anastasios Sarampalis, Deniz Başkent (2012). Listening effort and bimodal hearing. Meeting Werkgemeenschap Auditief Systeem WAS-DAG (Meeting workgroup auditory system), Amsterdam, the Netherlands.

Grants

2010 – 2014	Industry Support, Cochlear Europe Ltd. Title: Optimization and identification of bimodal/bilateral benefits with cochlear implants. Role: Research Staff (PhD student)
Travel Grants	
2011	Conference on Implantable Auditory Prostheses 2011, Pacific Grove, CA, USA.
2014	37th ARO MidWinter Meeting, San Diego, CA, USA.

References available on request