

# Erik Marsja

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## Current research

I am examining how sudden and unexpected changes in our environment captures our attention and, thus, causes distraction from what we currently are engaged in. Specifically, my Ph.D. work is examining how sudden and unexpected changes in auditory, tactile, and the combination of both auditory and tactile (multisensory) stimulation affects performance in speeded and short-term memory tasks.

## Research ambition

My goal is to create my academic career in cognitive psychology. Mainly doing ground research but also more applied (e.g., multisensory alarms). Specifically, in the areas of attention and cognitive control. I aspire to eventually be able to work as an established researcher in these, and related, areas (i.e., cognitive neuroscience).

## Education and Degrees

- Ph.D. in Psychology, 2017, Department of Psychology, Umeå University.  
*Thesis title:* Attention capture by sudden and unexpected changes: a multisensory perspective. Available from the DiVA Database: <http://umu.diva-portal.org/smash/record.jsf?pid=diva2%3A1156775>
- M.Sc. in Cognitive Science, 2012, Department of Psychology, Umeå University.  
*Thesis title:* Attention Capture: The Impact of Change in Spatial Sound Source on Behavior.
- B.Sc. in Cognitive Science, 2011, Department of Psychology, Umeå University.  
*Thesis title:* Attention Capture: Studying the Distracting Effect of One's Own Name. Available from DiVA Database: <http://urn.kb.se/resolve?urn=urn:nbn:se:umu:diva-46607>.

## Publications

### International peer-reviewed journals

Marsja, E., Neely, G., Ljungberg K.J. (In Press). Investigating deviance distraction and the impact of the modality of the to-be-ignored stimuli. *Experimental Psychology*.

Ljungberg, K. J., Parmentier, F. B. R., Jones, D. M., Marsja, E., & Neely, G. (2014). "What's in a name?" "No more than when it's mine own". Evidence from auditory oddball distraction. *Acta Psychologica*, 150C, 161–166. doi:10.1016/j.actpsy.2014.05.009.

## Publications In Preparation/Submitted/Under Revision

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Rosa, E., **Marsja**, E., Ljungberg K.J. (Manuscript in Preparation). Tactile warnings constitute an efficient alarm during high mental workload in simulated flight tasks

Marsh, J.E., Vachon, F., Sörqvist, P., **Marsja**, E., Röer J.P., & Ljungberg, K.J. (Submitted). Irrelevant vibro-tactile stimuli produce a changing-state effect: Implications for theories of interference in short-term memory.

**Marsja**, E., Neely, Ljungberg, K.J (Under revision). Deviance distraction in the auditory and tactile modalities after repeated exposure: differential aspects of tactile and auditory deviants.

## Current research collaborations

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- Associate Professor Jessica K. Ljungberg, Department of Psychology, Umeå University, Umeå, Sweden
- Professor Gregory Neely, Department of Psychology, Umeå University, Umeå, Sweden
- Dr. Patrik Hansson, Department of Psychology, Umeå University, Umeå, Sweden
- Dr. John E. Marsh, School of Psychology, University of Central Lancashire, UK
- Professor Patrik Sörqvist, Faculty of Engineering and Sustainable Development, Högskolan i Gävle, Gävle

## Conference Presentations

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**Marsja**, E., Marsh, J.E., Neely G., Hansson P., Ljungberg K.J., (2017, April). Domain-general or domain-specificity of the short-term memory: insights from a multisensory distraction paradigm. Re-thinking the Senses Spring School, Dubrovnik, Croatia. **Poster**.

**Marsja**, E., Marsh, J.E., Neely G., Hansson P., Ljungberg K.J., (2016, September). Do Spatial Changes in Sounds and Vibrations Affect Visuo-spatial and Verbal Short-Term Memory? Attention and Control: Insights from Distraction, Workshop, University of Central Lancashire, Preston, UK. **Invited Talk**.

**Marsja**, E., Marsh, J.E., Neely G., Hansson P., Ljungberg K.J., (2016, June). Spatial Change in Multisensory Distractors Impact on Verbal and Spatial Short Term Memory. International Multisensory Research Forum 17<sup>th</sup> annual meeting, Suzhou, CHN. **Oral presentation**.

**Marsja**, E., Neely G., Ma, L., Ljungberg K.J., (2015, August). Cross-modality matches of intensity and attention capture dimensions of auditory and vibrotactile stimuli. Fechner Day 2015. The 31<sup>st</sup> Annual Meeting of the International Society for Psychophysics, Québec, CA. **Poster**.

**Marsja**, E., Neely, G., Parmentier, F.B.R., Ljungberg, K.J., (2014, October) Deviance Distraction Is Contingent on Stimuli Being Presented within the Same Modality. Psychonomic Society's 55<sup>th</sup> Annual Meeting. Long Beach, CA, USA. **Poster**.

Ljungberg, K.J., Parmentier, F.B.R., **Marsja**, E., Neely, G., Jones, D., (2014, January). Any Tom, Dick, or Harry will do: Hearing one's own name distracts no more than any other in a cross-modal oddball task. Experimental Psychology Society Meeting. London, UK. **Poster**.

**Marsja**, E., Neely, G., Parmentier, F.B.R., Ljungberg, K.J., (2013, October). Maintenance of the distractive effect of deviating vibrotactile stimuli in a cross-modal oddball paradigm. the 29<sup>th</sup> Annual meeting of the International Society of Psychophysics, Freiburg, DE. **Poster**.

## Funding and Grants

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**6000 SEK** from the Department of Psychology for participating in the spring course Re-thinking the Senses Spring School, Dubrovnik, Croatia, 2017.

**15000 SEK** from Lars Hiertas Minnesfond for the project *Är korttidsminnet domän-generellt eller domän-specifikt? (Is short-term memory domain-general or domain specific?)*, 2016.

**12 000 SEK** from the Faculty of Social sciences, Umeå University for participating in the workshop Attention and Control: Insights from Distraction and visiting a researcher at the University of Central Lancashire, Preston, UK, 2016.

**8000 SEK** from the Department of Psychology for participating the conference 17<sup>th</sup> International Multisensory Research Forum 15-18 June, Suzhou, China, 2016.

**10 000 SEK** from JC Kempes minnesfond for the project *Is everyday distractibility related to attention capture by vibrating deviants?*, 2014.

**9 000 SEK** from Knut och Alice Wallenbergs Stiftelse for participating in the conferences Psychonomic Society's 55<sup>th</sup> Annual Meeting, 20-23 November, and APCAM, 20 November, Long Beach, USA, 2014.

**6000 SEK** from the Department of Psychology for participating the conference Fechner Day 2013 (the 29<sup>th</sup> Annual Meeting of the International Society for Psychophysics) 21-25 October, Freiburg i.Br., Germany, 2013.

## Teaching responsibilities

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### Past & current areas at undergraduate level

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Primarily in:

- Attention
- Perception
- Applied Cognitive Psychology
- Cognitive Psychology
- Research Methods
- Project work

Lectures, seminars, lab demonstrations, supervision of group project (both involving empirical and applied projects) and supervision of thesis' have been given at the Department of Psychology Umeå University, Sweden. I have so far taught 695 clock hours. See Table for an overview of teaching topics.

# Teaching responsibilities - an overview of type of teaching, hours, etc.

Period	Subject	Type	Clock Hours	Course/Program	Level	Language
VT 2014	Scientific communication, research methods, research ethics	Lectures, seminars, supervision	60	Psychological test and research methods/Statistical and Empirical Methods, the Clinical Psychologist program/the Bachelor's Program in Cognitive Science	UG	Swe
	Cognitive Psychology	Supervision of projects	20	Introduction to Psychology, the Clinical Psychologist Program	UG	Swe
HT 2014	Cognitive Psychology	Supervision of projects	20	Introduction to Psychology, the Clinical Psychologist Program	UG	Swe
	Clinical Psychology	Co-supervision of thesis project	20	Master Thesis in Psychology, 30 ECTS, the Clinical Psychologist Program	G	Eng
	Applied Cognitive Science	Supervision of projects	40	Project in Cognitive Science, the Bachelor's Program in Cognitive Science	UG	Swe
	Cognitive Psychology	Supervision of projects	24	Introduction to Psychology, the Clinical Psychologist Program	UG	Swe
VT 2015	Cognitive Psychology	Lectures, seminars, supervision of projects	20	Basic psychology and sport psychology, the Coaching Program	UG	Swe
	Cognitive Psychology	Supervision of thesis project	15	Master Thesis in Cognitive Science, 15 ECTS, the Master's Program in Cognitive Science	G	Eng
	Applied Cognitive Science	Supervision of projects	110	Project in Cognitive Science, the Bachelor's Program in Cognitive Science	UG	Swe
	Cognitive Psychology	Supervision of projects	24	Cognitive Psychology, the Clinical Psychologist Program	UG	Swe
VT 2016	Qualitative methods	Seminars	20	the Psychology of Organizations, Environment and Work, the Clinical Psychologist Program	UG	Swe
	Cognitive Psychology	Lab demonstrations	30	2:1 Cognition, the Clinical Psychologist Program	UG	Eng
	Cognitive Psychology: Attention	Lectures, seminars, supervision of projects	60	Applied Cognitive Psychology, the Bachelor's Program in Cognitive Science	UG	Swe
	Qualitative and Quantitative methods	Seminars, computer labs	30	the Psychology of Organizations, Environment and Work, the Clinical Psychologist Program	UG	Swe
HT 2016	Applied Cognitive Science	Supervision of projects	110	Project in Cognitive Science, the Bachelor's Program in Cognitive Science	UG	Swe
	Cognitive Psychology	Lab demonstrations	30	2:1 Cognition, the Clinical Psychologist Program	UG	Eng
	Qualitative and Quantitative methods	Seminars, computer labs	30	the Psychology of Organizations, Environment and Work, the Clinical Psychologist Program	UG	Swe
	Cognitive Psychology: Perception, Attention, and Consciousness	Lectures	24	Perception, the Bachelor's Program in Cognitive Science	UG	Swe
VT 2017	Clinical Psychology	Seminars	9	Master Thesis in Psychology, 30 ECTS, the Clinical Psychologist Program	G	Swe
	Cognitive Psychology	Lab demonstrations	30	2:1 Cognition, the Clinical Psychologist Program	UG	Eng
	Cognitive Psychology, Applied: Attention	Lectures, seminar	20	Applied Cognitive Psychology, the Bachelor's Program in Cognitive Science	UG	Swe
	Applied Cognitive Science	Supervision of projects	40	Project in Cognitive Science, the Bachelor's Program in Cognitive Science	UG	Swe
HT 2017	Qualitative and Quantitative research methods	Seminars, computer labs	30	the Psychology of Organizations, Environment and Work, the Clinical Psychologist Program	UG	Swe
	Clinical Psychology	Seminars	30	Master Thesis in Psychology, 30 ECTS, the Clinical Psychologist Program	G	Swe
	Cognitive Psychology	Lab demonstrations	30	2:1 Cognition, the Clinical Psychologist Program	UG	Eng
	Cognitive Psychology: Attention and Consciousness	Lectures, seminars	24	Perception, the Bachelor's Program in Cognitive Science	UG	Swe
Total of clock hours: 950 , UG = Undergraduate, G = Graduate			50	Learning and teaching, pedagogy	UG	Swe

## Supervision of master students

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Ma, L. (2015). Department of Psychology, Umeå University. “Cross-Modal Matching of Distractibility in Auditory and Tactile Stimuli”. Master Thesis in Cognitive Science (15 ECTS).

Blide, M. (2014). Department of Psychology, Umeå University. “Att orka lämna ett misshandelsförhållande: Anknytningens betydelse (To cope leaving abusive relationships: The importance of attachment). Master Thesis in Clinical Psychology (30 ECTS).

## Additional skills

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- Good skills in Microsoft Word and Excel
  - Good skills in statistical software such as SPSS and R
  - Good programming skills in Python (v2.7.x) and R
  - Basic skills in Markdown (i.e., RMarkdown) and L<sup>A</sup>T<sub>E</sub>X
  - Basic programming skills in Visual Basic, E-basic (E-prime), and MATLAB
  - Programming and performing experiments using both E-prime, MATLAB, and Python (i.e., PsychoPy & Experiment)
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