

## Publications and Presentations

### Refereed articles

#### Submitted

Heinrich SP, Bach M (—) Recognized or not? Modeling false responses in a forced-choice acuity task.

Heinrich SP, Bach M (—) Resolution acuity versus recognition acuity with Landolt-style optotypes.

Heinrich SP, Bach M (—) Underconfidence and temporal resource allocation in an optotype acuity task.

#### 2012

[Sævarsson S, Kristjánsson Á, Bach M, Heinrich SP \(2012\)](#)  
P300 in neglect. *Clin Neurophysiol* 123:496–506.

#### 2011

[Dehnert A, Bach M, Heinrich SP \(2011\)](#)  
Subjective visual acuity with simulated defocus. *Ophthal Physiol Opt* 31:625–631.

[Heinrich SP, Krüger K, Bach M \(2011\)](#)  
The dynamics of practice effects in an optotype acuity task. *Graefes Arch Clin Exp Ophthalmol* 249:1319–1326

[Jainta S, Dehnert A, Heinrich SP, Jaschinski W \(2011\)](#)  
Binocular coordination during reading of blurred and non-blurred text. *Invest Ophthalmol Vis Sci* 52:9416–9424.

#### 2010

[Heinrich SP, Bach M \(2010\)](#)  
Less is more: subjective detailedness depends on stimulus size. *J Vision* 10: 2,1–10

[Heinrich SP, Marhöfer, D, Bach M \(2010\)](#) “Cognitive” visual acuity estimation based on the event-related potential P300 component. *Clin Neurophysiol* 121:1464–1472

[Ehm W, Kornmeier J, Heinrich SP \(2010\)](#) Multiple testing along a tree. *Electron J Stat* 4:461–471

[Heinrich SP \(2010\)](#) Some thoughts on the interpretation of steady-state evoked potentials. *Doc Ophthalmol* 120:205–214

[Heinrich SP, Krüger K, Bach M \(2010\)](#) The effect of optotype presentation duration on acuity estimates revisited. *Graefes Arch Clin Exp Ophthalmol* 248:389–394

[Roland R, Hirsch U, Heinrich SP, Bach M, Gräf M \(2010\)](#) Ein stochastischer Test zur Validitätskontrolle von Visusangaben. [A test for stochastic validity check of visual acuity statements.] *Ophthalmologie* 107:47–54

## 2009

Heinrich SP, Mell D, Bach M

(2009) Frequency-domain analysis of fast oddball responses to visual stimuli: a feasibility study. *Int J Psychophysiology* 73:287–293

Heinrich SP

(2009) Permutation-based significance tests for multi-harmonic steady-state evoked potentials. *IEEE Trans Biomed Eng* 56:534–537

## 2008

Mell D, Bach M, Heinrich SP

(2008) Fast stimulus sequences improve the efficiency of event-related potential P300 recordings. *J Neurosci Meth* 174:259–264

Heinrich SP, Bach M

(2008) Signal and noise in P300 recordings to visual stimuli. *Doc Ophthalmol* 117:73–83

Heinrich SP, Aertsen A, Bach M

(2008) Oblique effects beyond low-level visual processing. *Vision Res* 48:809–818

## 2005–2007

Heinrich SP, Andrés M, Bach M

(2007) Attention and visual texture segregation. *J Vision* 7:6,1–10

Heinrich SP

(2007) A primer on motion visual evoked potentials. *Doc Ophthalmol* 114:83–105

Kromeier M, Heinrich SP, Bach M, Kommerell G

(2006) Ocular prevalence and stereoacuity. *Ophthalmic Physiol Opt* 26:50–56

Heinrich SP, Schilling AM, Bach M

(2006) Motion adaptation: net duration matters, not continuousness. *Exp Brain Res* 169:461–466

Heinrich SP, Renkl AEH, Bach M

(2005) Pattern specificity of human visual motion processing. *Vision Res* 45:2137–2143

Heinrich SP, Kromeier M, Bach M, Kommerell G

(2005) Vernier acuity for stereodisparate objects and ocular prevalence. *Vision Res* 45:1321–1328

## before 2005

Heinrich SP, Bach M

(2004) High-frequency oscillations in human visual cortex do not mirror retinal frequencies. *Neurosci Lett* 369:55–58

Heinrich SP, van der Smagt MJ, Bach M, Hoffmann MB

(2004) Electrophysiological evidence for independent speed channels in human motion processing. *J Vision* 4:469–475

Heinrich SP, Bach M

(2003) Adaptation characteristics of steady-state motion visual evoked potentials. *Clin Neurophysiol* 114:1359–1366.

Heinrich SP, Bach M

(2001) 120 Hz oscillations in the flash visual evoked potential are strictly phaselocked and limited to the first 100 ms. *Vis Neurosci* 18:917–921

Janz C, Heinrich SP, Kornmayer J, Bach M, Hennig J

(2001) Coupling of neural activity and BOLD fMRI response: New insights by combination of fMRI and VEP experiments in transition from single events to continuous stimulation. *Magn Reson Med* 46:482–486

Heinrich SP, Bach M

(2001) Adaptation dynamics in pattern-reversal visual evoked potentials. *Doc Ophthalmol* 102:141–156

Fahle M, Heinrich SP, Mahmud SH

(2000) Parallel detection of orientation differences in the presence of orientation gradients. *Vision Res* 40:2905–2913

## Non-refereed articles

Heinrich SP, Bach M (2010) Visus – Eine Frage der Zeit? *Klin Monatsbl Augenheilkd* 227:356

## Conference Abstracts

### 2011

Heinrich SP, Wiedner K, Bach M, Kornmeier J (2011) Beware of light red: Surround color affects achromatic visual acuity. (ECVP)

Kornmeier J, Wiedner K, Bach M, Heinrich SP (2011) Beware of blue: background colours differentially affect perception of different types of ambiguous figures. (ECVP)

### 2010

Heinrich SP, Krüger K, Bach M (2010) Practice effects in acuity testing (ECVP)

Heinrich SP, Bach M, Kristjánsson Á, Sævarsson S (2010) P300 responses in visuo-spatial neglect reflect task accuracy. (CNS 2010)

### 2009

Heinrich SP, Bach M (2009) Less is more: smaller images appear richer in detail. *Perception* 38 (suppl.):63 (ECVP 2009)

Dehnert A, Bach M, Heinrich SP (2009) Measuring subjective visual acuity in normal subjects with simulated visual disorders. *Perception* 38 (suppl.):104 (ECVP 2009)

Heinrich SP, Marhöfer D, Bach M (2009) Estimating “cognitive” visual acuity using P300 responses. (ISCEV 2009)

### 2008

Bach M, Heinrich SP (2008) Objektive Testung höherer Sehleistungen. (DOG 2008)

Dehnert A, Bach M, Heinrich SP (2008) Subjective visual acuities with simulated and physical defocus. *Perception* 37 (Suppl.):103 (ECVP 2008)

Heinrich SP, Lipp R, Bach M (2008) Motion adaptation in population responses - models and measurements. *Perception* 37 (Suppl.):72 (ECVP 2008)

Kornmeier J, Hein C, Krüger K, Heinrich SP, Bach M (2008) When our brain is impressed but we do not notice it - Evidence for an unconscious reliability estimation of the perceptual outcome. *Perception* 37 (Suppl.):129 (ECVP 2008)

Heinrich SP, Bach M (2008) Objective response detection in steady-state evoked potentials using permutation techniques. (ISCEV 2008)

Heinrich SP, Bach M, Kornmeier J (2008) Conquer and Divide: A novel approach to spatiotemporal significance testing that accounts for alpha error inflation. Neuroimage 41 (Suppl.):S159 (HBM 2008)

Heinrich SP, Mell D, Bach M (2008) Improving the signal-to-noise ratio of the visual P300. (VSS 2008)

Chopovska Y, Pieh C, Fuchs A, Heinrich SP, Bach M (2008) VEP-based acuity assessment in patients with amblyopia and cataract. (ARVO 2008)

## 2005–2007

Krüger K, Bach M, Heinrich SP, Kornmeier J (2007) Multistable perception: Does stability of a neural object representation depend on attention? Beiträge zur 10.

[Tübinger Wahrnehmungskonferenz](#)

Heinrich SP, Andrés M, Bach M (2006) Attention effects in visual texture segregation. Acta Ophthalmol Scand (EVER 2006)

Heinrich SP, Grill-Spector K (2005) Spatio-temporal properties of object repetition effects in the human cortex: a combined EEG and fMRI approach. (SfN 2005)

Heinrich SP, Grill-Spector K (2005) Temporal dynamics of object-repetition effects in the human visual cortex. J Vision 5:854a ( [VSS](#) 2005).

Heinrich SP, Grill-Spector K (2005) Time course of object-repetition effects in the human visual cortex. Beiträge zur 8. [Tübinger Wahrnehmungskonferenz](#)

Heinrich SP, Grill-Spector K (2005) The time course of item-specific and category-specific visual object processing. Neuroforum 2005, 1 (suppl.): 435B (

[Göttingen Neurobiology Conference](#)

## vor 2007

Heinrich SP, Grill-Spector K (2004) Category-specific versus item-specific repetition effects in visual object processing. [J Vision 4:54a](#)

( [Fall Vision Meeting](#)

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Vinberg JK, Heinrich SP, Grill-Spector K (2004) Object and shape processing in the human lateral occipital complex. [SfN](#)

van der Smagt MJ, Heinrich SP, Bach M, Hoffmann MB (2004) Electrophysiological evidence for independent speed channels in human motion processing. Perception 33:38a (suppl) (

[ECVP](#)

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Heinrich SP, Renkl AEH, Bach M (2004) Motion adaptation: The pattern matters.

[J Vision 4:567a](#)

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Hoffmann MB, van der Smagt MJ, Bach M, Heinrich SP (2004) Electrophysiological evidence for independent speed channels in human motion processing. Beiträge zur 7.

[Tübinger Wahrnehmungskonferenz](#)

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Heinrich SP, Schilling AM, Bach M (2003) Do motion onsets affect motion adaptation?

[J Vision 3:536a](#)

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Heinrich SP, Kromeier M, Bach M, Kommerell G (2003) Hat die Augenprävalenz einen Einfluß auf die Positionswahrnehmung von Stereoobjekten? Beiträge zur 6.

[Tübinger Wahrnehmungskonferenz](#)

. p. 80

Heinrich SP, Aertsen A, Bach M (2003) EEG oscillations & binding: A perspicuous Gestalt percept fails to enhance gamma activity. Brain Topogr 15:270 (Deutsches Mapping Meeting 2002)

Janz C, Heinrich SP, Hennig J (2002) The effect of contrast adaptation on BOLD signal changes. P Intl Soc Mag Reson Med 2:1328

Heinrich SP, Aertsen A, Bach M (2002) Striking Gestalt modulates EEG gamma activity—but not in accordance with the temporal binding hypothesis.

[J Vision 2:230a](#)

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Heinrich SP, Bach M (2002) Keine Adaptation durch oszillierende Bewegung? Beiträge zur 5.

[Tübinger Wahrnehmungskonferenz](#)

. p. 108

Renkl AEH, Heinrich SP, Bach M (2002) Bewegungswahrnehmung untersucht mit evozierten Potentialen – welche Reize sind geeignet? Beiträge zur 5.

[Tübinger Wahrnehmungskonferenz](#)

. p. 123

Kornmeier J, Heinrich SP, Bach M (2002) Necker-Würfel: Neuronale Sättigung und "top-down" Einflüsse. Beiträge zur 5.

[Tübinger Wahrnehmungskonferenz](#)

. p. 69

Molnar FE, Heinrich SP, Bach M (2002) Visual evoked potentials to concentric motion: varying patterns and speed. Ophthalmic Research 34:115

Heinrich SP, Janz C, Kornmayer J, Hennig J, Bach M (2001) fMRI nonlinearities: Adaptation hypothesis tested with visual evoked potentials. Invest Ophthalmol Vis Sci 42:S407 (

[ARVO](#)

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Kornmeier J, Heinrich SP, Atmanspacher H, Bach M (2001) The reversing "Necker Wall" - a new paradigm with reversal entrainment reveals an early EEG correlate. Invest Ophthalmol Vis Sci 42:S409 (

[ARVO](#)

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Janz C, Heinrich SP, Kornmayer J, Bach M, Hennig J (2001) Combination of fMRI and VEP recording: the BOLD response is not a linear transform of the average neuronal activity. P Intl Soc Mag Reson Med 1:283

Heinrich SP, Aertsen A, Bach M (2001) Neues Reizparadigma zur Untersuchung der Gestaltwahrnehmung mit visuell evozierten Potentialen. Beiträge zur 4.

[Tübinger Wahrnehmungskonferenz](#)

. p. 99

Kornmeier J, Heinrich SP, Atmanspacher H, Bach M (2001) Die "Necker-Wand" - Eine neues Paradigma zum Kippphänomen mehrdeutiger Figuren löst ein frühes EEG Korrelat aus. Beiträge zur 4.

[Tübinger Wahrnehmungskonferenz](#)

. p. 64

Heinrich SP, Herzog MH, Koch C, Fahle M (2000) Ein unsichtbares Element sehen: Merkmalsvererbung und Merkmalsreise. Beiträge zur 3.

[Tübinger Wahrnehmungskonferenz](#)

. p. 64

Heinrich SP, Bach M (1997) Stimulus-induced modulations of 30 and 40 Hz domains in the EEG. Invest Ophthalmol Vis Sci 38:4618-4618 (

[ARVO](#)

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## Some other Talks

Heinrich SP. Ein Bericht zum Leben an der Schwelle der Sehschärfe. [A report on the life at the threshold of acuity.] Arbeitskreis Ophthalmische Optik, Aalen, October 8, 2011

Heinrich SP. Die normgerechte Sehschärfepfung. [Standard-conform acuity testing.] CME teaching series, Univ.-Augenklinik Freiburg, October 22, 2010

Heinrich SP. Die Sehschärfemessung als neuropsychologische Herausforderung. [The measurement of visual acuity as a neuropsychological challenge.] Neuropsychologisches Kolloquium, Institut für Psychologie, Albert-Ludwigs-Universität Freiburg (invited talk)

Heinrich SP. Was tun wenn die Daten nicht normalverteilt sind? [What to do if the data are not normally distributed?] CME teaching series, Univ.-Augenklinik Freiburg, Januar 29, 2010

Heinrich SP. Altes und Neues zur Sehschärfenmessung. [Old and new findings regarding visual acuity tests.] Treffen des Arbeitskreises Ophthalmische Optik, Schwerte (Ruhr), Oktober 25, 2009

Heinrich SP. Funktionelle Sehstörungen. [Functional visual disorders.] CME teaching series, Univ.-Augenklinik Freiburg, December 14, 2007

Heinrich SP. Objective assessment of visual acuity. IX. Symposium der Universitäten Semmelweis/Heidelberg/Freiburg, Heidelberg, June 19, 2007 (invited talk)

Heinrich SP. Adaptation as a tool in vision research. Department of Ophthalmology, Stanford University, Stanford, Apr 19, 2005 (invited talk)

Heinrich SP. Feinstruktur der visuellen Bewegungsverarbeitung - Elektrophysiologische Untersuchungen beim Menschen mittels Adaptation. [Fine structure of visual motion processing - electrophysiological investigations in humans using adaptation.] Department of Human Neurobiology, University of Bremen, Bremen, Jul 9, 2003 (invited talk)

Heinrich SP. Visuelle Bewegungsadaptation beim Menschen. [Visual motion adaptation in humans.]

[Mittelbauertreffen](#)

2002, Bielefeld, March 23, 2002

Heinrich SP. m-Sequenzen und hochfrequente EEG-Oszillationen: Zwei Fliegen mit einer Klappe schlagen. [m sequences and high-frequency EEG oscillations: Slaughtering two birds with one stone.] Oberseminar über statistische Anwendungen, Institut für Datenanalyse und Modellbildung, Freiburg, Jan 31, 2002

Heinrich SP. Oszillationen im EEG bei visueller Wahrnehmung. [Oscillations in the EEG with visual perception.] Oberseminar über statistische Anwendungen, Institut für Datenanalyse und Modellbildung, Freiburg, Jan 28, 2001

Heinrich SP. (with Janz C) Direkte Beobachtung der Kopplung von neuronaler Aktivierung mit der hämodynamischen Antwort durch Kombination von EEG mit fMRI. [Direct observation of the coupling of neural activation and hemodynamic response through combination of EEG and fMRI.] Section of Medical Physics, Department of Radiology, Freiburg, Jun 29, 2000

Heinrich SP. Adaptationsvorgänge im VEP. [Adaptation processes in the VEP.]

[Mittelbauerntreffen](#)

2000, Berlin, Apr 9, 2000

## Other Presentations

Heinrich SP, Hoffmann, MB, Renkl, AEH, van der Smagt, MJ, Bach M. Combining adaptation and visual evoked potentials to investigate human visual motion processing. Workshop Computational Neuroimaging: Adaptation & Priming, University of Minnesota, Minneapolis, Apr 16, 2004 (poster)

Heinrich SP, Janz C, Kornmayer J, Hennig J, Bach M. Influence of neural adaptation on fMRI nonlinearities assessed with visual evoked potentials.

[NEUREX](#)

meeting 2000, Freiburg Dec 9, 2000 (poster)