

April 8, 2024

## *CURRICULUM VITAE*

### **BRIGITTE RÖDER**

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Birth date: April 12, 1967 in Hermeskeil (Germany)

### **EDUCATION**

- 2002: Habilitation, Psychology; Philipps-University Marburg (Germany)
- 1995: Dr. rer. nat. (Ph.D. equivalent), Psychology; Philipps-University Marburg (Germany)
- 1991: Diplom, Psychology; Philipps-University Marburg (Germany)
- 1986: Abitur; Staatliches Gymnasium Hermeskeil (Germany)

### **ACADEMIC APPOINTMENTS**

- 2023-pres.: Visiting Scholar LV Prasad Eye Institute, Hyderabad (India)
- 2010-pres.: Full professor (W3), Biological Psychology and Neuropsychology, University of Hamburg
- 2004-pres.: Adjunct Professor at the Faculty of Medicine Hamburg-Eppendorf.
- 2003-2010: Full professor (C4), Biological Psychology and Neuropsychology, University of Hamburg
- 2000-2003: Emmy Noether-fellow (German Research Foundation); head of a junior research group at the Psychology Department of the Philipps-University Marburg (Germany)
- 1997-2000: Research and Teaching Associate (F. Rösler); Psychology Department, Philipps-University Marburg (Germany)
- 1995-1997: Postdoc; Department of Psychology and Neuroscience (H.J. Neville); University of Oregon, Eugene (U.S.)
- 1993: Visiting Scholar in the Cognitive Psychophysiology-Laboratory (M.G.H. Coles); University of Illinois, Urbana-Champaign (U.S.)
- 1991-1995: PhD candidate, Research and Teaching Associate (F. Rösler); Psychology Department, Philipps-University Marburg (Germany)
- 1989-1991: Student Research Assistant (F. Rösler); Behavioral and event-related potential studies in long-term memory and mental imagery; Psychology

- Department, Philipps-University Marburg (Germany)
- 1987-1989: Student Research Assistant (H.H. Schulze): Studies in haptic perception and design of tactile displays for the blind; Psychology Department, Philipps-University Marburg (Germany)
- 1986-1991: Studies of Psychology, Philipps-University Marburg (Germany)

## **OTHER PROFESSIONAL ACTIVITIES**

- since 2023: Member of the board of directors of the Altonarer Foundation
- since 2022: Member of the presidential committee of the Hector Fellow Academy
- since 2021: Member of the board of directors of the Hamburg Center of Neuroscience
- since 2021: Member of the scientific board of the Leibniz Institute for Neurobiology (Magdeburg, Germany)
- since 2020: Member of the pre-selection committee for the Hector Award
- since 2019: Member of the senate of the German Research Foundation (DFG)
- since 2019: Member of the preselection committee for science awards at the University of Hamburg
- since 2018: Chair of the board for graduation of the Psychology Department at the University of Hamburg
- since 2018: Member of the selection committee of the Academy of Science in Hamburg
- since 2015: Member of Committee for Life Sciences of the German National Academy of Sciences Leopoldina
- since 2014: Member of the faculty board of the Faculty of Psychology and Human Movement Science at the University of Hamburg
- 2020-2023: Member of the Excellence Advisory Board of the University of Hamburg
- 2021: Chair of the presidential evaluation committee of the Psychology department of the Technical University Dresden (Germany)
- 2020: Jury member for the Joachim Jungius award 2020 of the Jungius Society and the Academy of Science Hamburg
- 2020, 2015: Jury member for the Ernest-John Solvay Prize, Research Foundation - Flanders (FWO), Belgium
- 2017-2022: Member of the scientific advisory board at the Max Planck Institute for Empirical Aesthetics, Frankfurt/M.
- 2016-2022: Member of the board of directors of the Transregio German-Chinese Collaborative Research Centre TRR 169
- 2017: Member of the Review board SH4 for consolidator grants of the European Research Council (ERC)
- 2016-2019: Member of the review board (Psychology: 110) of the German Research Foundation (DFG)
- 2016-2017: Member of the founding committee for a Center for Advanced Studies (University of Hamburg, Academy of Sciences in Hamburg)
- 2015-2019: Member of the Committee for International Affairs at the University of

- Hamburg
- 2014-2018: Member of the Governors of the German-Israeli Foundation for Scientific Research and Development (GIF)
- 2012-2017: Regional representative of the German/Austrian constituency of the International Neuropsychology Symposium (INS)
- 02/2014-09/15: Dean of the Faculty of Psychology and Human Movement Science at the University of Hamburg
- 11/2013-03/2014: Founding dean of the Faculty of Psychology and Human Movement Science at the University of Hamburg
- 2013-2015: Member of the selection committee (postdoc and research fellows) of the Alexander von Humboldt Foundation
- 2013-2015: Science Europe, Member of the Committee for the Social Sciences
- 2009-2016: Contact person at the University of Hamburg for the German Psychological Society
- 2012-2014: Member of the commission for “European science policy” of the German Rectors’ Conference
- 2011-2014: Member of the board of directors of the Collaborative Research Centre SFB 936
- 2011-2014: Member of the faculty board of the Psychology Department, University Hamburg
- 2008-2009: Dean of the Psychology Department at the University of Hamburg.
- 2007-2008: Vice Dean of the Psychology Department at the University of Hamburg
- 2005-2011: Member of the faculty board of the faculty of Education, Psychology and Human Movement, University Hamburg
- 2005-2009: Member of the board of directors of the research focus Neuroscience at the University of Hamburg
- 2005-2008: Member of the board of directors of NeuroImage Nord (University of Hamburg, Kiel and Lübeck)
- 2004-2011: Vice chairperson of the board for graduation of the Psychology Department at the University of Hamburg
- 2004-2009: Member of the board for the admission of foreign students; Psychology Department of the University of Hamburg
- 1998: Member of the McDonnell Summer Institute in Cognitive Neuroscience, Olympic Valley, CA (U.S.)
- 1997: Member of the McDonnell Summer Institute in Cognitive Neuroscience, Dartmouth Medical School, Hanover (U.S.)
- 1995: Member of the Summer School on Methods in Physiological Psychology; Ruhr-University Bochum and Heinrich-Heine University Düsseldorf (Germany)
- 1994: Member of the European Summer School on Cognitive Neuroscience, Nijmegen (The Netherlands)

## HONORS AND AWARDS

- 2023: Visiting Scholar LV Prasad Eye Institute, Hyderabad (India)
- 2021: Henriette Herz Scout of the Alexander von Humboldt Foundation
- 2020: Wilhelm Wundt Medal of the German Psychological Society (DGPs)
- 2018: Fellow of the Hector Academy
- 2017: Hector Science Award of the Hector Foundation
- 2014: Gottfried Wilhelm Leibniz-Award (German Research Foundation, DFG)
- 2011: Fellow of the Association for Psychological Science (APS)
- 2011: Teaching award of the Dep. of Psychology at the University of Hamburg
- 2010: ERC Advanced Investigators Grant
- 2010: Listed in AcademiaNet.de
- 2010: Member of the International Neuropsychological Symposium (INS)
- 2009: Selected for the training program of the Helmholtz Academy
- 2008: Member of the German National Academy of Sciences Leopoldina
- 2007: Member of the Academy of Science in Hamburg
- 2005: Member of the Wilhelm-Wundt Society (WWG)
- 2002: Award for Biology of the Science Academy Göttingen
- 2000: Publication Award of the Biological Psychology section of the German Psychological Society
- 2000: Young Scientist Award of the Federation of the European Societies for Psychophysiology
- 1996: Heinz-Heckhausen Dissertation award of the German Psychological Society (DGPs)

## CURRENT GRANTS

- 2023-2024 German Research Foundation (DFG, TRR 169 Transregio "Crossmodal Learning", A1): Adaptation of multisensory processing to changing priors and sensory evidence. PIs: Patrick Bruns and Brigitte Röder (University of Hamburg), Xiaolan Fu (Chinese Academy of Sciences, Beijing). Project grant: 2 PhD positions (65%) +  $\approx$  5000 €.
- 2020-06/2024: Free and Hanseatic City of Hamburg (LFF-FV 73, "Pregnancy, immunology, health risks in mother and child", Speaker: Prof. Dr. Petra Arck). Subproject: „Modulation and immunological and neuronal mechanisms of fetal programming of neurocognitive performance“. PI: Prof. Dr. Brigitte Röder. Project grant: 44.630 €.
- 2020-2023: Free and Hanseatic City of Hamburg (LFF-FV 76, "Mechanisms regulating excitation and inhibition in the learning and diseased brain", Speaker: Prof. Dr. Matthias Kneussel). Subproject: „Changes of the excitatory/inhibitory balance during human brain development“. PI: Prof. Dr. Brigitte Röder. Project grant: ca 175.000 €.

- 2020-2023: German Research Foundation (DFG, TRR 169 Transregio “Crossmodal Learning”, A1): Adaptation of multisensory processing to changing priors and sensory evidence. PIs: Patrick Bruns and Brigitte Röder (University of Hamburg), Xiaolan Fu (Chinese Academy of Sciences, Beijing). Project grant: 363.560 €.
- 2020-2022: EU project “The Crossmodal Brain” (Horizon 2020 MSCA ITN: Dr. Aline de Borst). 162.806 €.
- 2019-2023: German Research Foundation (DFG; Research Center SFB 936 “Multisite communication in the brain”; B11): Development of bottom-up and top-down communication in visual and multisensory cortical networks in humans PI: Brigitte Röder. Project grant: 319.200 €.
- 2018-2025: University Fellow of the Max Planck School of Cognition
- 2015-2025: German Research Foundation (DFG: Ro 2625/10-1). Leibniz Award. Total Grant 2.5 Mill. €.

### **PAST GRANTS**

- 2018-2022: Funding of a PhD position (65%) by the Hector Fellow Academy: 209.927 € (01.10.2018-30.09.2022).
- 2018: EU FP7 post-grant Open Access Pilot. Grant: 4800 €.
- 2017-2020: German-Chinese Alumni Network Neuroscience (co-applicant, main PI: Prof. Dr. Frank Bremmer, Philipps University Marburg)
- 2016-2019: German Research Foundation (DFG, TRR 169 Transregio “Crossmodal Learning”, A1): Dynamic adaptation of multisensory processes by cross-modal recalibration. PIs: Brigitte Röder (University of Hamburg) and Bo Hong (Tsinghua University, Beijing). Project grant: 446.000€.
- 2016-2018: Human Brain Project (EU GA 720270). Project grant: 333.540 €.
- 2015-2019: German Research Foundation (DFG; Research Center SFB 936 “Multisite communication in the brain”; B1): Tactile-visual interactions for saccade planning during free viewing and their modulation by TMS. PIs: Tobias Heed and Brigitte Röder. Project grant: 300.000 €.
- 2015-2018: City of Hamburg excellence program: “Crossmodal learning”. (PIs: Jianwei Zhang, Stefan Wermter, Andreas Engel, Brigitte Röder). Project grant approximately: 280.000 €.
- 2014-2017: EU. “Audio Bracelet for Blind Interaction” (Coordinator: Monica Gori, Italian Institute of Technology, Genua). Project grant: 300.000 €.
- 2013-2015: German Research Foundation (DFG: Ro 2625/12-1). Initiation and enhancement of international cooperation “Recovery of visual and multisensory functions after visual deprivation in humans”. (PI: Brigitte Röder). Project grant: 17.890 €.
- 2011-2012: German National Academy of Sciences Leopoldina. Initiative „Neurobiological and psychological factors of socialization: Consequences for economy and education”. PIs: Frank Rösler, Brigitte Röder. Total grant: 100.000 €.

- 2011-2015: German Research Foundation (DFG; Research Center SFB 936 “Multisite communication in the brain”; B2): Changes of large-scale interactions as a mechanism of adaptive plasticity. PIs: Brigitte Röder and Andreas Engel. Project grant: 357.400 €.
- 2011-2015: German Research Foundation (DFG; Research Center SFB 936 “Multisite communication in the brain”; B1): Role of vision for shaping cortico-cortical interactions mediating sensorimotor transformations. PIs: Tobias Heed and Brigitte Röder. Project grant: 177.600 €.
- 2010-2016: European Research Council Advanced investigators grant (ERC-2009-AdG 249425-CriticalBrainChanges). “Development and plasticity of multisensory functions to study the principles of age dependent learning plasticity in humans”. Total grant: 2.396.640 €.
- 2010-2016: German Research Foundation (DFG: GK 1247/2) German-Chinese Graduate Student Training Program; Crossmodal Interaction in Natural and Artificial Cognitive Systems (CINACS, PIs: Jianwei Zhang (spokesperson), Brigitte Röder, Christian Büchel, Andreas Engel, Christopher Habel, Wolfgang Menzel, Brigitte Röder, 8 professors of Tsinghua University, Beijing). Total grant (German side): 2.412.652 €, Project grant: 220.000 €.
- 2010-2013: EU collaborative grant: COST project TIMELY: Time In Mental activity (PI: Argiro Vataki, an 20 co-investigators among them Brigitte Röder). Total grant: 210.000 €.
- 2009-2012: German Research Foundation (DFG GU 227/11-1): The role of interhemispheric transfer and cerebral asymmetry for multisensory perception: (PI: Onur Güntürkün, Coinvestigator: Brigitte Röder). Project grant: 113.000€.
- 2009-2012: EU collaborative grant: NOMS:Nano-Optical Mechanical Systems (project part of Brigitte Röder) Project grant: 268.700 €.
- 2009-2012: German Research Foundation (DFG FR 2519/1-2): Multisensory plasticity of neuronal word form representations: (PIs: Claudia Friedrich, Brigitte Röder). Total grant: 212.000 €.
- 2009-2010: BWF Hamburg-excellence initiative: Cluster Neurodapt! (PIs: Christian Büchel, Brigitte Röder, 14 further investigators). Total grant: 1.843.585 €; project grant: 115.224 €.
- 2009-2010: German Research Foundation (DFG HO 3924/1-2): Exercise and neural plasticity in humans (PIs: Kirsten Hötting, Brigitte Röder). Total grant: 47.600 €.
- 2008-2011: German Research Foundation (DFG; Research Center SFB 538; E7 Multilingualism): Critical periods for the acquisition of German and of German Sign Language: Is being multilingual of any advantage? PIs: Brigitte Röder and Barbara Hänel-Faulhaber. Project grant: 379.700 €.
- 2007-2008: BMBF (01GJ0610): Neural foundation of bilingual education in hearing impaired children (PIs: Claudia Friedrich, Barbara Hänel, Brigitte Röder). Total grant: 81.096 €.
- 2006-2010: German Research Foundation (DFG: GK 1247/1) German-Chinese

- Graduate Student Training Program; Crossmodal Interaction in Natural and Artificial Cognitive Systems (CINACS, PIs: Jianwei Zhang (spokesperson), Brigitte Röder (spokesperson Hamburg) Christian Büchel, Andreas Engel, Christopher Habel, Wolfgang Menzel, Brigitte Röder, 8 professors of Tsinghua University, Beijing). Total grant (German side): 1.956.251 € (Project grant: 250.000 €).
- 2006-2009: German Research Foundation (DFG HO 3924/1-1): Exercise and neural plasticity in humans (PIs: Kirsten Hötting, Brigitte Röder). Total grant: 184.000 €.
- 2005-2011: BMBF (0606/101): Whole head MEG system (PIs: Andreas Engel, Christian Büchel, Malte Clausen, Günther Deuschl, Detlef Kömpf, Dieter Naber, Brigitte Röder, Manfred Westphal, Hermann Zeumer). Total grant: 2.000.000 €.
- 2005-2008: BMBF (01GW0561): Plasticity and reorganization of object processing in the human brain (PIs: Brigitte Röder, Christian Büchel, Andreas Engel, Hartwig Siebner) (spokesperson: Brigitte Röder). Total grant: 958.388 €; Project grant: 254.633 €.
- 2005: German Research Foundation (DFG; HBF 102-641): EEG System, PI: Brigitte Röder. Total grant: 140.000 €.
- 2005-2008: German Research Foundation (DFG; Research Center SFB 538; E7 Multilingualism): Critical periods for the acquisition of German and of German Sign Language: Is being multilingual of any advantage? PI: Brigitte Röder. Project grant: 354.800 €.
- 2005-2008: BMBF: 01GO0510: NeuroImageNord (PIs: Christian Büchel, Günther Deuschl, Andreas Engel, Detlef Kömpf, Dieter Naber, Brigitte Röder, Hermann Zeumer). Total grant: 2.000.000 €.
- 2005-2008: German Research Foundation (DFG: FOR 560): Perception and action; PIs: Frank Rösler, Brigitte Röder, Siegfried Bien. Project grant: 226.400 €.
- 2004-2007: German Research Foundation (DFG, GRK 885/1): Brain and behavior: Neuronal representation of action (Spoke persons: Karl Gegenfurtner, Frank Bremmer). Total grant: 1.036.833 € (Project grant: 60.000 €).
- 2000-2004: German Research Foundation (DFG: FOR 254/2-1. 2-4, C1): High density EEG recordings during the activation of semantic and episodic memory. PIs: Frank Rösler, Brigitte Röder, Siegfried Bien.
- 2000-2004: German Research Foundation (DFG, FOR 254/2-1, 2-2, B1): Plasticity of neural representations in blind humans; PIs: Brigitte Röder, Frank Rösler, Siegfried Bien. Total grant: 200.000 €.
- 2000-2004: Emmy Noether Fellowship of the German Research Foundation (Ro 1226/4-1, 4-2, 4-3): Multisensory perception and compensatory plasticity in blind humans. PI: Brigitte Röder. Total grant: 700.000 €.
- 1998-2001: German-American Academic Council Foundation: TransCoop Program: Organization and Reorganization of auditory language functions in sighted and blind People (Brigitte Röder). Total grant: 50.000 DM.
- 1998: German Research Foundation (DFG, Ro 1226/3-1), Travel award (Brigitte

- Röder). Total grant: 2.400 DM.
- 1995-1997: German Research Foundation (DFG, Ro 1226/1-2), Research Grant: Developmental plasticity („Entwicklungsbedingte Plastizität“) (PI. Brigitte Röder). Total grant: 110.000 DM.
- 1990: Student grant of the Dr. Wolff'sche foundation (Brigitte Röder).
- 1985-1986: Grant for talent High-school students (Brigitte Röder).

## **PROFESSIONAL SOCIETIES**

Deutsche Gesellschaft für Psychologie (DGPs)  
Deutsche Gesellschaft für Psychophysiologie und ihre Anwendung (DGPA)  
Gesellschaft für Neuropsychologie (GNP)  
Indian Academy of Neurosciences (IAN)  
International Multisensory Research Forum (IMRF)  
International Neuropsychological Symposium (INS)  
Neurowissenschaftliche Gesellschaft (NWG)  
Society for Neuroscience (SfN)  
Society for Psychophysiological Research (SPR)  
Wilhelm Wundt-Gesellschaft (WWG)

## **MAJOR RESEARCH INTERESTS**

Multisensory processes; Neuroplasticity: Functional and structural changes in the brain due to development, perceptual-cognitive training, physical exercising, traumatic events such as sensory deprivation/deafferentation. The focus is on the age dependence of the brain's capacity to change and hence learn. Methods include behavioral and electrophysiological measures as well as structural and functional magnetic resonance imaging (fMRI) and transcranial magnetic stimulation (TMS).

## **REVIEW ACTIVITY**

### **Journals**

Brain  
Brain and Cognition  
Brain Research  
Brain Research Bulletin  
BMC Neuroscience  
British Journal of Ophthalmology  
Canadian Journal of Experimental Psychology  
Cerebral Cortex  
Clinical Neurophysiology



Cognition  
Cognitive Brain Research  
Communications Biology  
Current Directions in Psychological Science  
Current Biology  
Developmental Psychobiology  
Developmental Science  
EBioMedicine  
Elife  
European Journal of Neuroscience  
Experimental Brain Research  
Frontiers in Integrative Neuroscience  
Hearing Research  
Infant and Child Development  
iScience  
Journal of Cognitive Neuroscience  
Journal of Dental Research  
Journal of Neurophysiology  
Journal of Neuroscience  
Journal of Vision  
Nature  
Nature Neuroscience  
Neurocase  
Neuroimage  
Neuropsychologia  
Neuroscience  
Neuroscience and Biobehavioral Reviews  
Neuroscience Letters  
Perception  
PNAS  
Progress in Neurobiology  
Psychophysiology  
Psychological Bulletin  
Psychological Research  
Restorative Neurology and Neuroscience  
Science  
The European Journal of Cognitive Psychology  
The Quarterly Journal of Experimental Psychology  
Trends in Cognitive Sciences  
Trends in Neuroscience  
Visual Cognition  
Zeitschrift für Neuropsychologie  
Zeitschrift für Psychologie

## **Grants**

Alexander von Humboldt Foundation (Germany)  
European Research Council (ERC)  
Federal Ministry of Education and Research (BMBF; Germany)  
German Research Foundation (DFG, Germany)  
German National Academy of Sciences Leopoldina  
Le Fonds de la Recherche Scientifique (FNRS)  
Max Planck Society (Germany)  
Medical Research Council (U.K.)  
Minerva Foundation (Germany)  
National Science Foundation (U.S.)  
The Wellcome Trust (U.K.)

## **ORGANIZED SYMPOSIA AND CONFERENCES**

Symposium "Functional and structural changes in the brain due to exercise", Sports, Medicine and Health Summit 2021, virtual congress, April 20-24, 2021 (together with Kirsten Hötting).

INSA-Leopoldina Symposium "The challenge to learn: New approaches to study the problem of stability vs. plasticity in the brain", in Hyderabad (India), Nov 28-29, 2017 (together with D. Balasubramanian, Jozsef Fiser, Neeraj Jain).

Symposium "Frequency-tagging to understand brain function", International Neuropsychological Symposium (INS), Sitia (Greece), June 20-24, 2017 (together with Jeason Mattingly and Bruno Rossion).

Invited Symposium "Developmental Cognitive Neuroscience: Where Experimental Psychology, Developmental Psychology and Neuroscience Meet". 50<sup>th</sup> Conference of the German Society of Psychology, Leipzig (Germany), September 18-22, 2016 (together with Erich Schröger).

INSA-Leopoldina Workshop "Brain and Eye", in Hyderabad (India), February 1-2, 2016 (together with D. Balasubramanian).

Lecture of the award winner of the European Science Award of the Körber Foundation (May-Britt and Edvard Moser), Hamburg (Germany), September 4, 2014 (co-organizer).

20<sup>th</sup> Meeting of the Organization of Human Brain Mapping, Hamburg (Germany), June 8-12, 2014 (member of the local organization board).

Symposium "Multisensory neural maps for body schema, action and perception: development and dysfunction." International Neuropsychological Symposium, INS, Nerja (Spain), June 24-29, 2013 (together with Elisabetta Ladavas, E. & Maria Concetta Morrone).

Symposium "Cortical connectivity of crossmodal interactions". Annual meeting of the German Society of Neuroscience. March 2013, Göttingen (Germany) (together with Till Schneider).

Conference "13<sup>th</sup> International Multisensory Research Forum', Oxford (U.K.), June 19-June 22, 2012. Member of the organizational board.

Symposium "Neurobiological and psychological determinants of socialisation: Consequences for economy and education II". January 26-27, 2012 (together with Frank Rösler and Ursula Staudinger).

Symposium "Neurobiological and psychological determinants of socialisation: Consequences for economy and education I". December 8-9, 2011 (together with Frank Rösler and Ursula Staudinger).

Conference "11<sup>th</sup> International Multisensory Research Forum', Liverpool (U.K.), June 16-June 19, 2010. Member of the organizational board.

Conference "10<sup>th</sup> International Multisensory Research Forum', New York (U.S.), June 29-July 2, 2009. Member of the organizational board.

Annual Meeting of the Wilhelm-Wundt-Society, Hamburg (Germany), May 21-23, 2009.

Workshop series "Rovereto Workshop on Crossmodal Plasticity"; first workshop: "Crossmodal plasticity in deafness and cochlear implant", Rovereto (Italy) August 27-29, 2009. Co-organizer (with Francesco Pavani, University of Trento, Italy; Pascual Baron, University of Toulouse, France).

Second Sino-German Frontiers of Science Symposium (Alexander von Humboldt Foundation; Chinese Academy of Science), Frankfurt (Germany), May 14-17, 2009. Organizer of the Neuroscience session (together with Xiang Yu, Chinese Academy of Science, Shanghai).

Conference "9<sup>th</sup> International Multisensory Research Forum", Hamburg (Germany); July 16-19, 2008. Main organizer.

Conference „Neuroimaging and Psychological Theories of Human Memory“, Marburg, August 2-5, 2006. (with F. Rösler, C. Ranganath, R.H. Kluwe).

Symposium: "Multisensory processing in human cognition." Annual meeting of the Society of Cognitive Science (*Jahrestagung der Gesellschaft für Kognitionswissenschaft*), Saarbrücken, March 19-23, 2007.

Symposium: "What sensory deprivation studies tell us about multisensory processing" 5th "International Multisensory Research Forum", Barcelona (Spain), June 2-5, 2004.

Conference "5<sup>th</sup> International Multisensory Research Forum", Barcelona (Spain), June 2-5, 2004. (Member of the organizational board).

Symposium: „Multisensorik und Handlungssteuerung“; Tagung der Experimentell arbeitender Psychologen (TEAP), Giessen (Germany), April 2004 (with J. Trommershäuser, University of Giessen (Germany)).

## **SELECTED INVITED PRESENTATIONS**

(see also abstracts)

**Annual meeting of the Center for Mind, Brain and Behavior (CMBB)** (Gießen, Germany): „The role of visual experience for the development of active vision and underlying neural representations“, October 5, 2023.

**Karolinska Institute** (Stockholm, Sweden). "Recovery from congenital blindness: A model to study the mechanisms of sensitive periods in humans." May 25, 2023.

**Rotary Club Hamburg-Elbe** (Hamburg, Germany): Research visit at the LV Prasad Eye Institute, Hyderabad, India. March 30, 2023.

**CEU Budapest** (Budapest, Hungary): Recovery from congenital blindness: A model to study the mechanisms of sensitive periods in humans. March 24, 2023.

**Indian Institute of Technology** (Gandhinagar, India): How research in sight restoration helps us understanding human brain development. February 14, 2023.

**23rd Congress "European Association for Vision and Eye Research" (EVER) 2022** (Valencia, Spain): Keynote "Brain mechanism of sight recovery". October 13, 2022.

**47<sup>th</sup> Annual Meeting „Psychologie und Gehirn“ (PuG) 2022** (Freiburg, Germany): Keynote „Wie frühkindliche Erfahrungen das menschliche Gehirn formen“. June 18, 2022.

**Alfried Krupp Wissenschaftskolleg Greifswald** (Greifswald, Germany): „Sensible Phasen in der menschlichen Hirnentwicklung untersucht am Modell von Blindheit und Sehrestitution“. May 31, 2022.

**University College London** (online lecture): "Recovery of visual and multisensory functions after congenital cataract surgery". January 11, 2022.

**Max Planck Institute for Human Cognitive and Brain Sciences** (online lecture): "The role of experience for the development of visual and multisensory functions". November 25, 2021.

**Max Planck School of Cognition** (online lecture): “Multisensory processing and age-dependent neuroplasticity”. September 2, 2021.

**World Wide Web seminar “Multisensory Perception Talks”** (online lecture): “Multisensory development and the role of visual experience”. June 17, 2021.

**Champalimaud Research Symposium Hyderabad** (India) (online lecture): “How neuroscience helps to understand functional recovery after congenital cataract surgery”. January 31, 2021.

**Hamburg Institute for Advanced Study (HIAS)** (online lecture): “Age dependent learning: Sensitive periods in human brain development”. October 22, 2020.

**Goethe Center Hyderabad** (online lecture): “Brain mechanisms of sensitive periods”. August 28, 2020.

**21st Ophthalmologists‘ Meeting, Augen-Praxis-Klinik Esslingen** (Esslingen, Germany): „Die Rolle der frühkindlichen Seherfahrung auf die visuelle und audiovisuelle Wahrnehmung“, February 1, 2020.

**Max Planck School of Cognition** (Berlin, Germany): “An introduction to neuroplasticity”, January 10, 2020.

**Rotary Club Hamburg-Deichtor** (Hamburg, Germany): “Die Rolle frühkindlicher Erfahrung für die menschliche Gehirnentwicklung”, November 25, 2019.

**Science Academy in Hamburg** (Hamburg, Germany): „Research at the interface between Psychology and Neuroscience“, November 18, 2019.

**Annual Meeting of the Society for Neuroscience** (Chicago, US): German Social keynote “Sensitive **period** plasticity in humans”, October 21, 2019.

**Science Academy in Hamburg** (Hamburg, Germany): „Plastizität neuronaler Netzwerke als Grundlage von menschlichem Lernen in der Entwicklung und im Erwachsenenalter“, May 5, 2019.

**Central European University** (Budapest, Hungary): “Multisensory integration and crossmodal recalibration”, March 27, 2019.

**Visual function acquisition in normal development and following emergence from blindness Workshop** (Jerusalem, Israel): “The privilege of the first arriving input in human brain development”, December 16-18, 2018.

**Low Vision and the Brain** (Berlin, Germany): “Functional recovery after cataract surgery”, December 1, 2018.

**University of Lübeck** (Lübeck, Germany): “Learning in development vs. adulthood: Sensitive phases in human brain development”, November 6, 2018.

**The Blind Brain Workshop** (Lucca, Italy): “Experience dependent development of neural network dynamics”, October 11-13, 2018.

**New Horizons in Vision and Hearing Research** (Center for Neurosensory Systems (Tübingen, Germany): Evening Lecture “Neural correlates of sensory restitution in humans”, March 5, 2018.

**LV Prasad Eye Institute Eleventh Annual Champalimaud Symposium** (Hyderabad, India): Keynote “The neural basis of sight recovery after cataract surgery”, January 28, 2018.

**LV Prasad Eye Institute** (Hyderabad, India): “Neuroplasticity”, January 17, 2018.

**Indian Institute for Science, Education and Research** (Kolkata, India): “Early

experience leaves permanent traces in the human brain”, January 5, 2018.

**Brain Modes** (Manesar, India): “Experience and age dependent development of neural representation”, December 13, 2017.

**Center for Advanced Studies in Dubrovnik** (Croatia), Spring School Rethinking the senses: “Experience shapes multisensory functions”, April 4, 2017.

**University Jena, Spring School on Cortical Feedback** (Germany): “Crossmodal plasticity and learning differ in development and adulthood”, March 8, 2017.

**Utrecht University, Experimental Psychology Department** (Netherlands): Invited keynote “The visual influence on spatial representations”, February 24, 2017.

**Durham University, Psychology Department** (U.K): “Experience dependent multisensory development“, February 3, 2017.

**XXXIV Annual Meeting of Indian Academy of Neurosciences, Manesar** (India): Special Lecture “Experience-dependent development of (multi)sensory functions”, October 20, 2016.

**German Society of Psychology 50<sup>th</sup> Anniversary Meeting** (Leipzig, Germany). Keynote “Sensitive periods in human neuro-cognitive development”, September 22, 2016.

**Leibniz-Lecture in Hyderabad** (Hyderabad, India): “Sensitive phases in human brain development”, February 3, 2016.

**Hertie Stiftung/FAZ Reihe „Hirnforschung, was kannst du?“** (Frankfurt Germany): „Altersabhängige Lernplastizität des menschlichen Gehirns“; September 15, 2015.

**IBRO, Rio de Janeiro** (Brazil): DFG workshop “Research in Germany”, July 10, 2015.

**New Delhi, German House for Research and Innovation** (India): First Leopoldina-Leibniz Lecture “Age-dependent learning plasticity in humans”, January 21, 2015.

**New Delhi, National Brain Research Center** (India): “Multisensory processing and neuroplasticity”, January 20, 2015.

**Pune, ISSA** (India): “The role of experience in brain development”. January 15, 2015.

**29<sup>th</sup> Hamburg day of sportmedicine** (Hamburg, Germany): “Sport medicine from the perspective of a neuropsychologist”, December 9, 2014.

**Delmenhorst, Institute for Advanced Study** (Germany): “Age dependent learning plasticity”, November 27, 2014.

**Herrenhausen Seminar, Hannover** (Germany): “Sensitive periods in humans: The visual deprivation approach”, November 25, 2014.

**Universitätsgesellschaft Hamburg** (Germany): “How experience shapes brain and behavior”, October 8, 2014.

**University of Leuven** (Belgium): “Development, sensitive phases and adult recalibration of multisensory processes”, September 28, 2014.

**German National Academy, Annual Meeting in Rostock** (Germany): “Multisensory Processing”, September 19, 2014.

**Rotary Club Hamburg-Altstadt** (Germany): “Sensible Phasen in der menschlichen Gehirnentwicklung”, September 1, 2014.

**University of Hamburg** (Germany): “Sensible Phasen in der menschlichen Gehirnentwicklung”, May 14, 2014.

**Osnabrück Computational Cognitive Alliance Meeting** (Germany): Keynote “Plasticity

of multisensory functions: Spatial recalibration, emotional and motivational influences”, May 7, 2014.

**Summerschool German-Chinese graduate school** (Beijing, China): “Developmental plasticity of multisensory functions”, September 9, 2013.

**Chinese Academy of Science, Institute for Automation** (Beijing, China): “Plasticity of multisensory functions”, September 9, 2013.

**Sino-German Workshop** (Hamburg, Germany): “Why do critical periods exist in development“, September, 2, 2013.

**International Neuropsychological Symposium** (Nerja, Spain): “The role of experience in multisensory development and processing”, June 26, 2013.

**Central European University Budapest** (Hungary): “Developmental and adult plasticity of multisensory function”, May 22, 2013.

**Radboud University Nijmegen** (The Netherlands): “Multisensory processing: development, sensitive phases and adult recalibration”, May 14, 2013.

**Sixth Annual Champalimaud Research Symposium** (Hyderabad, India): Invited presentation “Functional recovery after cataract surgery shows age dependent neural plasticity in humans”, January 30, 2013.

**University for Music and Theater, Rostock.** Invited presentation. “Kompensatorische Lernplastizität bei blinden Menschen”, January, 12, 2013.

**University of Hamburg, Medical Faculty.** “Altersabhängige Lernplastizität untersucht am Modell der sensorischen Deprivation beim Menschen”, August 17, 2012.

**Fifth Annual Champalimaud Research Symposium** (Hyderabad, India): Invited presentation “Functional recovery of visual and multisensory functions after a transient phase of total congenital blindness”, January 30, 2012.

**German National Academy Leopoldina** (Potsdam, Germany), Initiative “Neurobiological and psychological factors of socialization: Consequences for economy and education”: “Critical periods”, December 8, 2011.

**Jacobs University Bremen** (Germany): “Crossmodally generated shifts of auditory localization”, December 6, 2011.

**German Rectors’ Conference** (Frankfurt, Germany): “ERC advanced investigators grant”, October 10, 2011.

**University of Zürich, Neuropsychology:** “The experience dependence of multisensory development”, May 18, 2011.

**Ludwig-Maximilians University München, Psychology:** “Crossmodal generated shifts of auditory localization”, February 9, 2011.

**Lübeck, 23<sup>rd</sup> Workshop for early interventions in blind individual:** Keynote: “Compensatory plasticity in the blind”, January 21, 2011.

**University of Edinburgh, Center for Cognitive and Neural Systems:** „Reference Frames for multisensory interactions“, November 25, 2010.

**International Conference on Parietal lobe Functions, Amsterdam:** “Crossmodally generated shifts of auditory localization”, September 21, 2010.

**Bewegung und Leistungssport, Hamburg:** Keynote “Sport und Kognition, September 2, 2010.

**Body Representation Workshop, London:** invited theme talk: “Development plasticity

of reference frames for touch”, March 29, 2010.

**Max Planck Institute for Human Cognition and Brain Sciences:** “What do we learn from multisensory processes about age dependent neural plasticity in humans?”, July 17, 2009.

**Max-Planck Institute (Center for Lifespan Psychology), Berlin:** “The visual deprivation approach to study (multi)sensory development in humans”, March 24, 2009.

**Tactile Research Group; Chicago:** “Spatial reference frames for tactile perception”, November 13, 2008.

**Les Diablerets, Lemanic-Neurosciences Annual Meeting:** Keynote: „Development and plasticity of multisensory functions“, September 12, 2008.

**University of Saarbrücken:** „Multisensory space“, May 21, 2008.

**Chinese-German Frontiers in Science, Beijing:** “What is Neuroplasticity?”, March 13, 2008.

**Chinese Academy of Science, Shanghai:** “Multisensory processing and the sensory deprivation approach”, March 10, 2008.

**University of Frankfurt:** “The critical role of developmental vision for (multi)sensory perception”, December 6, 2007.

**Polytechnische Gesellschaft, Frankfurt:** “Wie Blinde den Verlust eines Sinnessystems kompensieren”, October 2, 2007

**University of Oldenburg:** “Multisensory functions are shaped by developmental vision”, July 16, 2007.

**University of Oxford:** “Developmental vision shapes multisensory processes”, May 8, 2007.

**University of Hamburg (21. Hamburger Tage der Sport und Bewegungsmedizin):** „Bewegung und Neuroplastizität“, April 14, 2007.

**Nürnberg („Turm der Sinne“):** “Sensory perception and language comprehension in the blind: the plastic brain”, September 23, 2006.

**Martin Luther University Halle-Wittenberg:** “Interaktionen der Sinnessysteme und crossmodale Kompensation“, July 4, 2006.

**Ärztchamber Hamburg:** “Kompensatorische Plastizität des Gehirns”, April 11, 2006.

**University of Würzburg:** "How the senses interact and how vision influences multisensory perception“, Januar 16, 2006.

**Verband der Blinden- und Sehbehindertenpädagoginnen/innen, Hannover:** “Wie Blinde sehen – Neuronale Grundlagen kompensatorischer Leistungen bei blinden Menschen”, December 10, 2005.

**Dartmouth College (Hanover, U.S.), “Summer School in Cognitive Neuroscience”:** “What we learn from the blind about neuroplasticity, July 29, 2005.

**University of Karlsruhe:** Study Centre for the Visual Impaired: “How the blind perceive the world” December 13, 2004.

**University of Lausanne;** University Hospital, Neuropsychology: “Multisensory processes and their fate in the blind”; November 18, 2004.

**University of Konstanz:** “The blind brain”, October 22, 2004.

**University of London,** Institute for Cognitive Neuroscience: “What we learn from the blind



- about multisensory processes”, October 4, 2004.
- Max-Planck-Institute for Psychology, Munic:** “Multisensory perception and cross-modal compensation”, December 10, 2003.
- University Bochum, Graduate School Neuroscience:** “Blindness: A Model to study Neuronal Plasticity” November 17, 2003.
- Potsdam, Emmy-Noether lecture** “Wie Blinde den Verlust eines Sinnessystems kompensieren”, July 19, 2003.
- Justus-Liebig University Giessen, Experimental Psychology:** "Multisensory perception and compensatory plasticity in the blind", April 18, 2003.
- University Tübingen, Cognitive Neurology:** “Multisensory representations of space and the contribution of visual“, January 23, 2003.
- Max-Planck-Institute for Biological Cybernetics, Tübingen:** “Spatial cognition without vision“, November 22, 2002.
- Wellcome Department of Imaging Neuroscience, London (U.K.)** “Compensatory changes in perceptual-cognitive functions as a consequence of visual deprivation in humans”, November 8, 2002.
- Tamagawa University, Brain Science Research Center (Japan):** "Compensatory changes in perceptual and higher cognitive functions as a consequence of visual deprivation in humans", August 2, 2002.
- Tsukuba University, Neuroscience Research Institute (Japan):** "Compensatory plasticity in congenitally blind humans", July, 23, 2002.
- Philipps-University Marburg, Studium Generale:** "Ist bei Blinden alles anders? Wie das Gehirn den Ausfall einer Sinnesmodalität kompensiert, June 19, 2002.
- Max-Planck Institute for Brain Research, Frankfurt:** "What we learn from the blind about plasticity of auditory functions", May 9, 2002.
- University of Bremen:** "Kompensatorische Plastizität bei blinden Menschen", December 10, 2001.
- Hanse Wissenschaftskolleg Delmenhorst:** "The principles of brain plasticity", March 8, 2001.
- University of Greifswald; Psychology Department:** “Compensatory plasticity in the blind”, December 13, 2000.
- Otto-von-Guericke-University Magdeburg; Psychology Department:** “Auditory compensation in blind humans”, July 4, 2000.
- University of Braunschweig; Psychology Department:** “Compensatory plasticity in blind humans”, November 23, 1999.
- Johann-Wolfgang Goethe University Frankfurt, Psychophysiology Department III:** “Neuroplasticity in blind humans”. June 23, 1999.
- Heinrich-Heine University Düsseldorf: Psychophysiological Department:** “Electrophysiological indices of neuronal plasticity in blind humans”, January 29, 1999.
- University of Marburg, Neuroscience group:** "Neural Plasticity in blind humans", January 14, 1999.
- University of Leipzig:** “Behavioral and electrophysiological indices of compensatory memory performance in blind compared to sighted adults”. December 2, 1998.

**University of Oregon, Eugene**, Institute of Cognitive & Decision Sciences - Colloquium: "Event-related potentials indicating neural plasticity in blind human subjects", Eugene, December 2, 1996.

**University of Washington**, Seattle: "Slow and phasic event-related potentials in blind and sighted human subjects", January 1996.

**University of Illinois, Urbana-Campaign**: "Haptic mental rotation in blind and sighted human subjects", September 1993.

## Teaching Experience

*(a) Psychology Department, Philipps-University Marburg (Germany):*

Courses: (1) Experimental Psychology ("ERP-correlates of subjective expectancy"), (2) Experimental Psychology ("Haptic Memory"), (3) Experimental Psychology ("Short-term Memory"), (4) Experimental Psychology ("Image Scanning"), (5) Experimental Psychology ("Visual spatial attention"), (6) Experimental Psychology ("False Memory") (7) "Distortion of egocentric reference frames", (8) "Attention to motion".

Seminars: (1) "Mental workload in the working environment", (2) "Attention and mental workload", (3) "Marketing psychology and psychology of advertising", (4) "Topics in Psychophysiology", (5) "Plasticity of cortical representations", (6) "Brain development and plasticity", (7) "Perception and Attention", (8) "Auditory Perception", (9) "Introduction to Psychology", (10) "Developmental Cognitive Neuroscience", (11) "Haptic memory", (12) "Psychology of attention", (13) "Introduction to the Cognitive Neurosciences", (14) "Multisensory perception", (15) "Cognitive neuroscience applied".

Lectures: (1) "Perception", (2) "Introduction to the Cognitive Neurosciences".

*(b) Psychology Department, University of Hamburg (Germany):*

Lectures: (1) "Introduction to the Cognitive Neurosciences", (2) "Biological Psychology", (3) "Methods in Cognitive Neuroscience", (4) "Developmental Cognitive Neuroscience", (5) "Sensitive Periods".

Courses: (1) "Introduction to the Cognitive Neurosciences", (2) "Experimental demonstrations", (3) "Experimental methods".

Seminars: (1) "Cognitive Neuroscience", (2) "Neuroplasticity", (3) "How we perceive the world, speak, think and act", (4) "Cognitive Neuroscience and aging", (5) Doctoral Seminar, (6) "Biological Psychology", (7) "Neuroscience of Attention", (8) "Multisensory processes", (9) "Developmental Cognitive Neuroscience", (10) Science seminar.

*(c) Psychology Department, University of Oregon, Eugene (U.S.):*

Seminars: (1) "Brain development".

*(d) Summer and Spring schools (see talks)*

## PhD candidates and Postdocs

Finished Doctoral Theses: Stephanie Badde, Angelika Becker (co-supervision), Anton Beer, Malte Bieler (co-supervision), Patrick Bruns, Ineke Fengler, Ingo Fleischer, Julia Föcker, Matthias Gondan, Helene Gudi, Marlene Hense, Tobias Heed, Cordula Hölig (co-supervision), Kirsten Hötting, Kathrin Holzschneider, Alexander Kramer, Anne Kriegseis, Laura Kuhne (co-supervision), Kathrin Lange, Pia Ley, Madita Linke, Mario Maiworm, Valeria Occelli (co-supervision), Lisa Putzar, Chiara Renzi (co-supervision), Ann-Kathrin Rogge, Sophie Rohlf, Ulrike Schild (co-supervision), Daniela Schönberger, Thomas Schröder, Jonathan Schubert (co-supervision), Kai Sieben (co-supervision) Nils Skotara, Suddha Sourav, Liesa Stange, Oliver Stock (co-supervision), Anna-Lena Stroh, Ralf Sürig, Agnes Villwock, Zhenzhu Yue (co-supervision), Dan Zhang (co-supervision), Liang Zhang (co-supervision), Björn Zierul.

Current Doctoral Candidates: Duygu Bayir, Carolin Heitmann, Cora Kubetschek, Tiago Mesquita, Rashi Pant, Sina Storm, Andreas Weiß.

Past Postdocs: Stephanie Badde, Rakesh Balachandar, Davide Bottari, Patrick Bruns Thérèse Collins, Maria de Sousa Guerreiro, Giulia Dormal, Claudia Friedrich, Margriet Groen, Boukje Habets, Barbara Hänel-Faulhaber, Tobias Heed, Kirsten Hötting, Lux Li, David Magezi, Elena Nava, Krista Overvliet, Kabilan Pitchaimuthu, Siddhart S. Rajendran, Ann-Kathrin Rogge, Ralf Sürig, Jonathan Tong, Sina Trautmann.

Current Postdocs: Hossein Abbasi, Aline de Borst, Cordula Hölig, Kishore Jagini, José Ossandón, Katarzyna Rączy, Diane Rekow.

## PUBLICATIONS

### Journals

#### 2024

P222. Bruns, P., Thun, C., & Röder, B. (2024). Quantifying accuracy and precision from continuous response data in studies of spatial perception and crossmodal recalibration. *Behavior Research Methods*, in press.

- P221. Stroh, A.L., Overvliet, K., Zierul, B., Rösler, F., & Röder, B. (2024). Motor adaptation in deaf and hearing native signers. *Journal of Deaf Studies and Deaf Education*, enae010. Advance online publication.
- P220. Overvliet, K., Postma, A., & Röder, B. (2024) Child development and the role of visual experience in the use of spatial and non-spatial features in haptic object perception. *Journal of Experimental Child Psychology*, 242, 10585.
- P219. Schönberger, D., Bruns, P., & Röder B. (2024). Visual artificial grammar learning across one year in 7-year-olds and adults. *Journal of Experimental Child Psychology*, 241, 105864.
- P218. Sourav, S., Kekunnaya, R., Bottari, D., Shareef, I., Pitchaimuthu, K., & Röder, B. (2024). Sound suppresses earliest visual cortical processing after sight recovery in congenitally blind humans. *Communication Biology*, 7(118).

### 2023

- P217. Bruns, P., & Röder, B. (2023). Development and experience-dependence of multisensory spatial processing. *Trends in Cognitive Sciences*, 27(10), 961-973.
- P216. Heitmann, C., Zhan, M., Linke, M., Hölig, C., Kekunnaya, R., van Hoof, R., Goebel, R., & Röder, B. (2023). Early visual experience refines the retinotopic organization within and across visual cortical regions. *Current Biology*, 33(22), 4950-4959.e4.
- P215. Hölig, C., Guerreiro, M.J.S., Lingareddy, S., Kekunnaya, R., & Röder, B. (2023). Sight restoration in congenitally blind humans does not restore visual brain structure. *Cerebral Cortex*, 33(5), 2152-2161.
- P214. Kuhne, L.A., Ksiezarczyk, A.-M., Braumann, K.-M., Reer, R., Jacobs, T., Röder B., & Hötting, K. (2022). Cardiovascular exercise, learning, memory, and cytokines: Results of a ten-week randomized controlled training study in young adults. *Biological Psychology*, 176, 108466
- P213. Ossandón, J. P., Stange, L., Gudi-Mindermann, H., Rimmel, J. M., Sourav, S., Bottari, D., Kekunnaya, R., & Röder, B. (2023). The development of oscillatory and aperiodic resting state activity is linked to a sensitive period in humans. *NeuroImage*, in press.
- P212. Pant, R., Ossandón, J.P., Stange, L., Shareef, I., Kekunnaya, R., & Röder, B. (2023). Stimulus-evoked and resting-state alpha oscillations show a linked dependence on patterned visual experience for development. *NeuroImage: Clinical*, 38, 103375.

- P211. Stange, L., Ossandón, J. P., & Röder, B. (2023). Crossmodal visual predictions elicit spatially specific early visual cortex activity but later than real visual stimuli. ***Philosophical Transactions of the Royal Society B***, 378: 20220339.

## 2022

- P210. Bruns, P., Li, L., Guerreiro, M.J.S., Shareef, I., Rajendran, S.S., Pitchaimuthu, K., Kekunnaya, R., & Röder, B. (2022). Audiovisual spatial recalibration but not integration is shaped by early sensory experience. ***iScience***, 25, 104439.
- P209. Guerreiro, M.J.S., Kekunnaya, R., & Röder, B. (2022). Top-down modulation of visual cortical processing after transient congenital blindness. ***Neuropsychologia***, 174, 108338.
- P208. Hänel-Faulhaber, B., Groen, M.A., Röder, B., & Friedrich, C.K. (2022). Ongoing sign processing facilitates written word recognition in deaf native signing children. ***Frontiers in Psychology, Language Sciences***, 13, 917700.
- P207. Ossandón, J., Zerr, P., Shareef, I., Kekunnaya, R., & Röder, B. (2022). Active vision in sight recovery individuals with a history of long-lasting congenital blindness. ***eNeuro***, 9(5), ENEURO.0051-22.2022, 1-17.
- P206. Rączy, K., Hölig, C., Guerreiro, M.J.S., Lingareddy, S., Kekunnaya, R., & Röder, B. (2022). Typical resting state activity of the brain requires visual input during an early sensitive period. ***Brain Communications***, 4(4), fcac146.
- P205. Stroh, A.-L., Grin, K., Rösler, F., Bottari, D., Ossandón, J., Rossion, B., Röder, B. (2022). Developmental experiences alter the temporal processing characteristics of the visual cortex: Evidence from deaf and hearing native signers. ***European Journal of Neuroscience***, 55(6), 1629-1644.
- P204. Villwock, A., Bottari, D., & Röder, B. (2022). Event-related potential correlates of visuo-tactile motion processing in congenitally deaf humans. ***Neuropsychologia***, 170, 108209.

## 2021

- P203. Guerreiro, M.J.S., Linke, M., Lingareddy, S., Kekunnaya, R., & Röder, B. (2021). The effect of congenital blindness on resting-state functional connectivity revisited. ***Scientific Reports***, 11(1), article 12433.
- P202. Hötting, K., Rogge, A.-K., Kuhne, L. A., & Röder, B. (2021). Balance expertise is

- associated with superior spatial perspective-taking skills. *Brain Sciences*, 11(11), 1401.
- P201. Kuhne, L., Ksiezarczyk, A., Braumann, K.-M., Reer, R., Jacobs, T., Röder, B., & Hötting, K. (2021). The effects of acute cardiovascular exercise on memory and its associations with exercise-induced increases in neurotrophic factors. *Frontiers in Aging Neuroscience*, 13:750401.
- P200. Lubinus, C., Orpella, J., Keitel, A., Gudi-Mindermann, H., Engel, A. K., Röder, B., Rimmele, J. M. (2021). Data-driven classification of spectral profiles reveals brain region-specific plasticity in blindness. *Cerebral Cortex*, 31(5), 2505-2522.
- P199. Pant, R., Guerreiro, M.J.S., Ley, P., Bottari, D., Shareef, I., Kekunnaya, R., & Röder, B. (2021). The Size-Weight Illusion is unimpaired in individuals with a history of congenital visual deprivation. *Scientific Reports*, 11, 6693.
- P198. Pitchaimuthu, K., Dormal, G., Sourav, S., Shareef, I., Rajendran, S. S., Ossandón, J. P., Kekunnaya, R., & Röder, B. (2021). Steady state evoked potentials indicate changes in nonlinear neural mechanisms of vision in sight recovery individuals. *Cortex*, 144, 15-28.
- P197. Röder, B., and Kekunnaya, R. (2021). Visual experience dependent plasticity in humans. *Current Opinion in Neurobiology*, 67, 155-162.
- P196. Röder, B., Kekunnaya, R. & Guerreiro, M.J.S. (2021). Neural mechanisms of visual sensitive periods in humans. *Neuroscience and Biobehavioral Reviews*, 120, 86-99.
- P195. Rogge, A.-K., Hamacher, D., Cappagli, G., Kuhne, L., Hötting, K., Zech, A., Gori, M., & Röder, B. (2021). Balance, gait, and navigation performance are related to physical exercise in blind and visually impaired children and adolescents. *Experimental Brain Research*, 239(4), 1111-1123.
- P194. Rohlf, S., Bruns, P., & Röder, B. (2021). The effects of cue reliability on crossmodal recalibration in adults and children. *Multisensory Research*, 34(7), 743-761.
- P193. Stroh, A.-L., Rösler, F., & Röder, B. (2021). The interaction of the visuo-spatial and the vestibular system depends on sensory experience in development. *Neuropsychologia*, 152:107736.

## 2020

- P192. Badde, S., Ley, P., Rajendran, S.S., Shareef, I., Kekunnaya, R., & Röder, B. (2020). Sensory experience during early sensitive periods shapes cross-modal temporal biases. *eLife*, 9, e61238.
- P191. Bottari, D., Bednaya, E., Dormal, G., Villwock, A., Dzhelyova, M., Grin, K., Pietrini, P., Ricciardi, E., Rossion, B., & Röder, B. (2020). EEG frequency-tagging demonstrates increased left hemispheric involvement and crossmodal plasticity for face processing in congenitally deaf signers. *NeuroImage*, 223, article 117315.
- P190. Bruns, P., Dinse, H. R., & Röder, B. (2020). Differential effects of the temporal and spatial distribution of audiovisual stimuli on cross-modal spatial recalibration. *European Journal of Neuroscience*, 52, 3763-3775.

- P189. Gudi-Mindermann, H., Rimmele, J. M., Bruns, P., Kloosterman, N. A., Donner, T. H., Engel, A. K., & Röder, B. (2020). Post-training load-related changes of auditory working memory – An EEG study. *Frontiers in Human Neuroscience*, 14, article 72, 1-16.
- P188. Hartwigsen, G., Röder, B., Lischke, A., Kübler, A., Pauli, P. (2020). Fachgruppe Biologische Psychologie und Neuropsychologie: Neurobiologische Grundlagen von Entwicklung und Lernen über die Lebensspanne. Diskussionsforum: Kommentare zu Daum, M. M., et al. (2020). Positionspapier der Fachgruppe Entwicklungspsychologie: Versuch einer Standortbestimmung. *Psychologische Rundschau*, 71(1), 24-48 [Fachgruppe Biologische Psychologie und Neuropsychologie: 26-29].
- P187. Kramer, A., Röder, B., & Bruns, P. (2020). Feedback modulates audio-visual spatial recalibration. *Frontiers in Integrative Neuroscience*, 13, article 74.
- P186. Li, L., Rehr, R., Bruns, P., Gerkmann, T., & Röder, B. (2020). A survey on probabilistic models in human perception and machines. *Frontiers in Robotics and AI*, 7, article 85, 1-9.
- P185. Rajendran, S. S., Bottari, D., Shareef, I., Pitchaimuthu, K., **Sourav, S.**, Troje, N. F., Kekunnaya, R., & Röder, B. (2020). Biological action identification does not require early visual input for development. *eNeuro*, 7(5).
- P184. Ricciardi, E., Bottari, D., Ptito, M., Röder, B., & Pietrini, P. (2020). The sensory-deprived brain as a unique tool to understand brain development and function. [Editorial]. *Neuroscience and Biobehavioral Reviews*, 108, 78-82.
- P183. Rohlf, S., Li, L., Bruns, P., & Röder, B. (2020). Multisensory integration develops prior to crossmodal recalibration. *Current Biology*, 30(9), 1726-1732.e7.
- P182. Sourav, S., Bottari, D., Shareef, I., Kekunnaya, R., & Röder, B. (2020). An electrophysiological biomarker for the classification of cataract-reversal patients: A case-control study. *EClinicalMedicine*, 27, 100559.
- P181. Tong, J.\*, Li, L.\*, Bruns, P., & Röder, B. (2020). Crossmodal associations modulate multisensory spatial integration. *Attention, Perception, & Psychophysics*, 82, 3490-3506. [\*equal contribution].
- P180. Zerr, P.\*, Ossandón, J.P.\*, Shareef, I., Van der Stigchel, S., Kekunnaya, R., & Röder, B. (2020). Successful visually guided eye movements following sight restoration after congenital cataracts. *Journal of Vision*, 20(7):3, 1-24. [\*equal contribution]

## 2019

- P179. Badde, S., Röder, B., & Heed, T. (2019). Feeling a touch to the hand on the foot. *Current Biology*, 29(9), 1491-1497.e4.
- P178. Bruns, P., & Röder, B. (2019). Repeated but not incremental training enhances cross-modal recalibration. *Journal of Experimental Psychology: Human Perception and Performance*, 45(4), 435-440.

- P177. Bruns, P. & Röder, B. (2019). Spatial and frequency specificity of the ventriloquism aftereffect revisited. *Psychological Research*, 83(7), 1400-1415.
- P176. Föcker, J. &, Röder, B. (2019). Event-related potentials reveal evidence for late integration of emotional prosody and facial expression in dynamic stimuli: An ERP study. *Multisensory Research*, 32(6), 473-497.
- P175. Hense, H., Badde, S., Köhne, S., Dziobek, I., & Röder, B. (2019). Visual and proprioceptive influences on tactile spatial processing in adults with autism spectrum disorders. *Autism Research*, 12(12), 1745-1757.
- P174. Hense, M., Badde, S., & Röder, B. (2019). Tactile motion biases visual motion perception in binocular rivalry. *Attention, Perception, & Psychophysics*, 81(5), 1715-1724.
- P173. Pitchaimuthu, K., Sourav, S., Bottari, D., Banerjee, S., Shareef, I., Kekunnaya, R., & Röder, B. (2019). Color vision in sight recovery individuals. *Restorative Neurology and Neuroscience*, 37(6), 583-590.
- P172. Rimmele, J., Gudi-Mindermann, H., Nolte, G., Röder, B. & Engel, A. (2019). Working memory training integrates visual cortex into beta-band networks in congenitally blind individuals. *NeuroImage*, 194, 259-271.
- P171. Rogge, A.-K., Hötting, K., Nagel, V., Zech, A., Hölig, C. & Röder, B. (2019). Improved balance performance accompanied by structural plasticity in blind adults after training. *Neuropsychologia*, 129, 318-330.
- P170. Schubert, J.T.W., Buchholz, V., Föcker, J., Engel, A., Röder, B., & Heed, T. (2019). Alpha-band oscillations reflect external spatial coding for tactile stimuli in sighted, but not in congenitally blind humans. *Scientific Reports*, 9, Article 9215.
- P169. Sourav, S., Kekunnaya, R., Shareef, I., Banerjee, S., Bottari, D., & Röder, B. (2019). A protracted sensitive period regulates the development of cross-modal sound-shape associations in humans. *Psychological Science*, 30(10), 1473-1482.
- P168. Stroh, A.-L., Rösler, F., Dormal, G., Salden, U., Skotara, N., Hänel-Faulhaber, B., & Röder, B. (2019). Neural correlates of semantic and syntactic processing in German Sign Language. *NeuroImage*, 200, 231-241.
- P167. Zierul, B., Tong, J., Bruns, P., & Röder, B. (2019). Reduced multisensory integration of self-initiated stimuli. *Cognition*, 182, 349-359.

## 2018

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## Abstracts

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Hänel-Faulhaber, B., Groen, M., Röder, B., & Friedrich, C. (2019). Foundations of reading in bimodal-bilingual deaf children: ERP evidence. Poster presented at the *Child Language Symposium, Sheffield, UK, July 10-12, 2019*.

Hölig, C., Guerreiro, M. J. S., Shareef, I., Lingareddy, S., Kekunnaya, R., & Röder, B. (2019). Cortical thickness in sight-recovery and congenitally blind individuals. Poster presented at the *Annual Meeting of the Society for Neuroscience (SfN), Chicago, IL, USA, October 19-23, 2019*.

Overvliet, K., Postma, A., Röder, B. (2019). Developmental trajectory and visual dependence in the use of different features in haptic object perception. Poster presented at the *42<sup>nd</sup> European Conference on Visual Perception, Leuven, Belgium, August 25-29, 2019*.

Stange, L., Ossandón, J., & Röder, B. (2019). Time course and spatial specificity of top-down visual predictions. Poster at the *Systems Neuroscience Symposium (SNS), Tübingen, Germany, September 14-15, 2019*.

Zerr, P., Ossandón, J., Kekunnaya, R., Shareef, I., Pitchaimuthu, K., van der Stigchel, S., & Röder, B. (2019). Eye movements in the formally blind. Oral presentation at the *42<sup>nd</sup> European Conference on Visual Perception, Leuven, Belgium, August 25-29, 2019*.

## 2018

Badde, S., Röder, B., & Heed, T. (2018). Feeling a touch to the hand on the foot. Talk at the *19th International Multisensory Research Forum (IMRF), Toronto, Canada, June 14-17, 2018*.

- Badde, S., Landy, M.-S., Röder, B., & Bruns, P. (2018). The determinants of cross-modal learning: Insights from the ventriloquism aftereffect. Talk at the Invited Symposium "Multisensory processing and the neglected senses – an appetizer". *51<sup>st</sup> Meeting of the German Psychological Society (DGPs), Frankfurt am Main (Germany), September 15-20, 2018.*
- Bednaya, E., Bottari, D., Dormal, G., Villwock, A., Dzhelyova, M. Grin, K., Pietrini, P., Ricciardi, E., Rossion, B., & Röder, B. (2018). Face processing in congenitally deaf signers. *BCBL WoRLD, San Sebastian, Spain, October 18-20, 2018.*
- Bottari, D., Kekunnaya, R., Hense, M., Troje, N.F., Sourav, S., & Röder, B. (2018). Motion processing after sight restoration: No competition between visual recovery and auditory compensation. Poster presented at the *19th International Multisensory Research Forum (IMRF), Toronto, Canada, June 14-17, 2018.*
- Bruns, P. & Röder, B. (2018). Differential effects of the temporal and spatial distribution of audiovisual stimuli on cross-modal spatial recalibration. Talk at the *19th International Multisensory Research Forum (IMRF), Toronto, Canada, June 14-17, 2018.*
- Fengler, I. Müller, J., & Röder, B. (2018). Auditory and visual motion adaptation in congenitally deaf cochlear implant users: Evidence for typical crossmodal aftereffects. Poster presented at the *15<sup>th</sup> CI2018 Conference, Antwerpen, Belgium, June 27-30, 2018.*
- Hänel-Faulhaber, B., Groen, M., Röder, B. & Friedrich, C. (2018). Neural foundation of reading in bimodal-bilingual deaf children. *ICSLA 2018: 20th International Conference on Sign Language and Acquisition, Toronto, Canada, June 21-22, 2018.*
- Pitchaimuthu, K., Sourav, S., Bottari, D., Banerjee, S., Shareef, I., Kekunnaya, R., & Röder, B. (2018). Color vision in sight recovery individuals. Poster presented at the *5th International Conference "Low Vision and the Brain", Berlin, Germany, November 30 – December 2, 2018.*
- Röder, B., Sourav, S., Kekunnaya, R., & Bottari, D. (2018). Visual and multisensory recovery in humans with a history of visual deprivation from birth. *11<sup>th</sup> FENS Forum of Neuroscience, Berlin, Germany, July 7-11, 2018.*
- Rogge, A.-K., Hötting, K., Nagel, V., Zech, A., Hölig, C. & Röder, B. (2018). Balance training in the blind: Structural plasticity in vestibular and proprioceptive regions. Poster presented at the *Blind Brain Workshop on the Sensory Deprived Brain, Lucca, Italy, October 11-13, 2018.*
- Rogge, A.-K., Röder, B., Zech, A., & Hötting, K. (2018). Exercise-induced neuroplasticity: Effects of a balance training. Talk at the *51. Kongress der Deutschen Gesellschaft für Psychologie, Frankfurt, Germany, October 17-20, 2018.*
- Sourav, S., Bottari, D., Kekunnaya, R., & Röder, B. (2018). The P1 Wave as highly specific diagnostic biomarker for bilateral congenital visual deprivation. Poster presented at the *Blind Brain Workshop on the Sensory Deprived Brain, Lucca, Italy, October 11-13, 2018.*
- Stroh, A.-L., Bottari, D., Grin, K., Rösler, F., & Röder, B. (2018). Steady-state visual evoked potentials in deaf and hearing individuals indicate an experience-

- dependence of the optimal driving rate. Poster presented at the *OSA Fall Vision Meeting, Reno, NV, USA, September 21-23, 2018*.
- Stroh, A.-L., Overvliet, K., Rösler, F., & Röder, B. (2018). Visuo-motor skills in deaf native signers. Poster presented at *BCBL WoRLD, San Sebastian, Spain, October 18-20, 2018*.
- Tong, J., Bruns, P., Kanellou, A., & Röder, B. (2018). Crossmodal associations modulate multisensory integration: modifying causal priors of simple auditory and visual stimuli. Poster presented at the *19th International Multisensory Research Forum (IMRF), Toronto, Canada, June 14-17, 2018*.
- Topalidis, P., Schenk, T., Röder, B., & Föcker, J. (2018). Is attention necessary in order to process vocal prosody in congenitally blind individuals? *Visual Search and Selective Attention (VSSA4), Munich / Ammersee, July 13th-16th, 2018*.
- Zerr, P., Kekunnaya, R., Shareef, I., Pitchaimuthu, K., van der Stigchel, S., Röder, B., & Ossandón, J. (2018). Eye tracker calibration in individuals with highly unstable gaze due to involuntary nystagmus. Poster presented at the *41<sup>st</sup> European Conference on Visual Perception ECVP, Trieste, Italy, August 26-30, 2018*.

## 2017

- Bruns, P. & Röder, B. (2017). Repeated (but not incremental) training enhances cross-modal recalibration in the ventriloquism aftereffect. Poster presented at the *18th International Multisensory Research Forum (IMRF), Nashville, USA, May 19-22, 2017*.
- Fengler, I., Nava, E., Delfau, P.-C., Villwock, A., & Röder, B. (2017). Auditory, visual, and auditory-visual emotion recognition in cochlear implant recipients. Talk presented at the *59<sup>th</sup> Conference of Experimental Psychologists (TeaP), Dresden, Germany, March 26-29, 2017*.
- Guerreiro, M. J. S., Putzar, L., Goebel, R., Kekunnaya, R., & Röder, B. (2017). Structural brain changes in cataract reversal individuals. *Poster presented at the 4th World Congress of Paediatric Ophthalmology and Strabismus, Hyderabad, India, December 1-3, 2017*.
- Hötting, K., Rogge, A.-K., Zech, A., Nagel, V., Hollander, K., Braumann, K.-M., & Röder, B. (2017). Bewegung und neuronale Plastizität: Ein Balancetraining steigert das Gedächtnis und räumliche Kognition. *49. Jahrestagung der Arbeitsgemeinschaft Sportpsychologie (asp), „Gelingende Entwicklung im Lebenslauf, Bern, Switzerland, May, 25-27, 2017*.
- Hötting, K., Hölig, C., & Röder, B. (2017). Physical exercise prevents hippocampal volume loss in middle-aged adults. *13. International Conference for Cognitive Neuroscience (ICON), Amsterdam, The Netherlands, August 8, 2017*.
- Li, X., Röder, B., & Zhang, J. (2017). An EEG based event-related complexity method for cognitive research. *2<sup>nd</sup> International Conference on Big Data Analysis (ICBDA), Beijing, China, March 10-12, 2017*.
- Röder, B. (2017). The challenge to learn in development vs. adulthood. *INSA-Leopoldina Symposium, Hyderabad, India, November 28-29, 2017*.

- Röder, B., Guerreiro, M. Putzar, L., Sourav, S., Bottari, D., & Kekunnaya, R. (2017). Neural mechanisms of visual recovery and crossmodal compensation after removing congenital total cataracts. *4th World Congress of Paediatric Ophthalmology and Strabismus, Hyderabad, India, December 1-3, 2017.*
- Rohlf, S., Habets, B., Frieling, M.v., & Röder, B. (2017). Crossmodal learning mechanisms change from development to adulthood. *18th International Multisensory Research Forum (IMRF), Nashville, TN, USA, May 19-22, 2017.*

## 2016

- Badde, S., Ley, P., Röder, B. (2016). Triggering the use of external space in congenitally blind individuals. *CNS 2016 Annual Meeting, New York, USA, April 2-5, 2016.*
- Badde, S., Thomaschewski, L., Stoffregen, H., & Röder, B. (2016). Adapting to visual and auditory low frequency stimuli induces enhanced tactile frequency discrimination within the same frequency range. *46th Annual Meeting of the Society for Neuroscience (SfN), San Diego, Nov 12-16, 2016.*
- Balachandar, R., Guerreiro, M.J.S., Kekunnaya, R., & Röder, B. (2016). "Hippocampal shape changes after sight restoration in congenital dense cataract patients." *10th Forum of the Federation of European Neurosciences Societies, Copenhagen, Denmark, July 2-6, 2016.*
- Bottari, D., Troje, N.F., Hense, M., Kekunnaya, R., & Röder, B. (2016). "Independent developmental trajectories for biological motion and face processing". *Oral presentation at the Indian association for research in vision and ophthalmology (ARVO-India; Hyderabad, India), July 30-31, 2016.*
- Bottari, D., Troje, N.F., Hense, M., Kekunnaya, R., & Röder, B. (2016). "The critical role of early visual input for the emergence of human alpha oscillatory activity". *Workshop on Early Experience and Sensitive Periods in Development, Ettore Majorana Foundation, Erice Italy, Aug 31 - Sept. 2016.*
- Bottari, D., Kekunnaya, R., Hense, M., Sourav, S., Balachandar, R., Troje, N.F., & Röder, B. (2016). The effect of a transient congenital visual deprivation on the neural systems for visual and sound motion processing. *46th Annual Meeting of the Society for Neuroscience (SfN), San Diego, Nov 12-16, 2016.*
- Bruns, P., Röder, B., & Badde, S. (2016). Interactions between time and space in tactile temporal order judgements are mediated by motion signals. *57th Annual Meeting of the Psychonomic Society, Boston, MA, USA, Nov 17-20, 2016.*
- Fengler, I., Bottari, D., Sourav, S., Villwock, A., & Röder, B. (2016). Intra- and multisensory interactions in congenitally deaf CI users. *46th Annual Meeting of the Society for Neuroscience, November 12-16, San Diego, CA, USA.*
- Guerreiro, M. J. S., Putzar, L., & Röder, B. (2016). Recovery of visual influence on auditory motion processing despite persisting cross-modal changes in sight-recovery individuals. *46th Annual Meeting of the Society for Neuroscience, November 12-16, San Diego, CA, USA.*

- Rimmele, J.M., Gudi-Mindermann, H., Nolte, G., Röder, B. & Engel, A.K. (2016). Neuroplasticity in the congenitally blind: Large-scale interactions during working memory processing and training. Poster presented at the *23<sup>rd</sup> Annual Meeting of the Cognitive Science Society, New York City, USA, April 2-5, 2016*.
- Röder, B., Guerreiro, M., Sourav, S., Bottari, D., & Kekunnaya, R. (2016) Experience-dependent development of (multi)sensory functions. *XXXIV Annual Meeting of Indian Academy of Neuroscience, Manasa, India, October 19-21, 2016*.
- Rogge, A-K., Röder, B., Zech, A., Nagel, V., Hollander, K., Braumann, K-M., & Hötting, K. (2016). Successful balance training improves memory. *10<sup>th</sup> Forum of the Federation of European Neurosciences Societies, Copenhagen, Denmark, July 2-6, 2016*.
- Rogge, A-K., Röder, B., Zech, A., Nagel, V., Hollander, K., Braumann, K-M., & Hötting, K. (2016). Successful balance training improves memory and spatial cognition. *46<sup>th</sup> Annual Meeting of the Society for Neuroscience (SfN), San Diego, Nov 12-16, 2016*.
- Rohlf, Sophie, Habets, B., & Röder, B. (2016). Multisensory learning through passive exposure in six-months-old infants. *46<sup>th</sup> Annual Meeting of the Society for Neuroscience, November 12-16, San Diego, CA, USA*.
- Sourav, S., Bottari, D., Balachandar, R., Kekunnaya, R., & Röder, B. (2016). Evidence for an intact retinotopic organization of early visual cortex but impaired extrastriate processing in sight recovery individuals. *46<sup>th</sup> Annual Meeting of the Society for Neuroscience (SfN), San Diego, Nov 12-16, 2016*.
- Stroh, A.-L., Rösler, F., Dormal, G., Skotara, N., Hänel-Faulhaber, B., & Röder, B. (2016). Neural correlates of semantic and syntactic processing in sign language. *46<sup>th</sup> Annual Meeting of the Society for Neuroscience, November 12-16, San Diego, CA, USA*.
- Sürig, R., Bottari, D., & Röder, B. (2016). Transfer of audio-visual training. *46<sup>th</sup> Annual Meeting of the Society for Neuroscience, November 12-16, San Diego, CA, USA*.
- Villwock, A., Bottari, D., & Röder, B. (2016). The impact of congenital deafness on visuo-tactile motion processing. *Multimodal Multilingual Outcomes in Deaf and Hard-of-Hearing Children Workshop, Stockholm, Sweden, June 12-16, 2016*.

## 2015

- Badde, S., Röder, B., & Heed, T. (2015). Assigning a touch on the hand to a foot: post hoc construction of tactile location. *45<sup>th</sup> Meeting of the Society for Neuroscience, Chicago, USA, October 17-21, 2015*.
- Bottari, D., Troje, N.F., Ley, P. Hense, M., Kekunnaya, R., & Röder, B. (2015). Sensitive periods for the functional specialization of visual processes. Independent developmental trajectories for biological motion and face processing. *16<sup>th</sup> International Multisensory Research Forum (IMRF), Pisa, Italy, June 13-16, 2015*.
- Bruns, P. & Röder, B. (2015). Cross-modal recalibration integrates local and global stimulus history. *16<sup>th</sup> International Multisensory Research Forum (IMRF), Pisa, Italy, June 13-16, 2015*.



- Fengler, I., Villwock, A., Höfer, M., Lenarz, T. & Röder, B. (2015). Visual, Auditory and visuo-auditory emotion perception in congenitally, early, and late deaf cochlear implant users. *16th International Multisensory Research Forum (IMRF), Pisa, Italy, June 13-16, 2015.*
- Gudi, H., Rimmele, J., Bruns, P., Engel, A.K., & Röder, B. (2015). Enhanced cortical connectivity following working memory training – An EEG study in congenitally blind individuals. *16th International Multisensory Research Forum (IMRF), Pisa, Italy, June 13-16, 2015.*
- Gudi, H., Rimmele, J., Bruns, P., Engel, A.K., & Röder, B. (2015). Load-dependent versus training-induced power changes within the working memory network – An EEG study. *45<sup>th</sup> Meeting of the Society for Neuroscience, Chicago, USA, October 17-21, 2015.*
- Guerreiro, M.J.S., Erfort, M.V., Henssler, J., Putzar, L. & Röder, B. (2015). Increased visual cortical thickness in sight-recovery individuals. *45<sup>th</sup> Meeting of the Society for Neuroscience, Chicago, USA, October 17-21, 2015.*
- Heed, T., Röder, B., Badde, S. (2015). Assigning a touch on the hand to a foot: post hoc construction of tactile location. *45<sup>th</sup> Meeting of the Society for Neuroscience, Chicago, USA, October 17-21, 2015.*
- Hense, M., Badde, S., Köhne, S., Habich, J., Dziobek, I., Röder, B. (2015). Tactile and crossmodal localization in adults with autism spectrum disorder. *45<sup>th</sup> Meeting of the Society for Neuroscience, Chicago, USA, October 17-21, 2015.*
- Rimmele, J., Gudi, H., Nolte, G., Röder, B., & Engel, A.K. (2015). Neuroplasticity in the congenitally blind: Working memory training alters large-scale interactions of visual cortex. *45<sup>th</sup> Meeting of the Society for Neuroscience, Chicago, USA, October 17-21, 2015.*
- Röder, B., Putzar, L., & Guerreiro, M. (2015). Altered multisensory processing after a transient period of total blindness from birth. *16th International Multisensory Research Forum (IMRF), Pisa, Italy, June 13-16, 2015.*
- Röder, B., Putzar, L., & Guerreiro, M. (2015). Neural correlates of functional recovery in humans with a history of visual deprivation from birth. *9<sup>th</sup> Meeting of the International Brain Research Organisation. July 7-11, 2015.*
- Rohlf, S., Habets, B., & Röder, B. (2015). Multisensory learning through passive audio-visual stimulation in six months old infants. *45<sup>th</sup> Meeting of the Society for Neuroscience, Chicago, USA, October 17-21, 2015.*
- Schubert, J.T.W., Badde, S., Röder, B., & Heed, T. (2015). Flexible use of spatial reference frames for touch in sighted and congenitally blind individuals. *16th International Multisensory Research Forum (IMRF), Pisa, Italy, June 13-16, 2015.*
- Zierul, B.H., Röder, B., Tempelmann, C., & Noesselt, T. (2015). The role of auditory cortex in the audiovisual ventriloquist aftereffect. *45<sup>th</sup> Meeting of the Society for Neuroscience, Chicago, USA, October 17-21, 2015.*

**2014**

- Badde, S., Heed, T., & Röder, B. (2014). Top-down controlled integration of tactile reference frames. 56. Tagung experimentell-arbeitender Psychologen, Giessen, Germany, March 31-April 2, 2014.
- Bruns, P., Maiworm, M., & Röder, B. (2014). Reward expectation influences audiovisual spatial integration. Talk presented at the 56<sup>th</sup> Conference of Experimental Psychologists (TeaP), Giessen, Germany, March 31 – April 2, 2014
- Gudi, H., Rimmele, J., Kloostermann, N.A., Donner, T.H., Engel, A., & Röder, B. (2014). Fronto-parietal gamma-band activity is modulated by working memory training. Annual Meeting of the Organization for Human Brain Mapping, Hamburg, Germany, June 8-12, 2014.
- Gudi, H., Rimmele, J., Kloostermann, N.A., Donner, T.H., Engel, A., & Röder, B. (2014). The functional role of theta-band activity before and after working memory training. *40<sup>th</sup> Annual Meeting "Psychologie und Gehirn", Lübeck, Germany, June 19-21, 2014.*
- Guerreiro, M.J.S., Putzar, L., & Röder, B. (2014). The effect of early visual deprivation on the neural bases of multisensory processing. 44<sup>th</sup> Meeting of the Society for Neuroscience, Washington D.C., USA, November 15-19, 2014.
- Habets, B., Frieling, M., & Röder, B. (2014). Multisensory learning through exposure. 15<sup>th</sup> International Multisensory Research Forum (IMRF), Amsterdam, The Netherlands, June 11-14, 2014.
- Heed, T., Schubert, J.T.W., & Röder, B. (2014). Flexible Integration of spatial information depends on developmental vision. 15<sup>th</sup> International Multisensory Research Forum (IMRF), Amsterdam, The Netherlands, June 11-14, 2014.
- Hölig, C., Föcker, J., Best, A., Röder, B., & Büchel, C. (2014). Brain systems mediating crossmodal interactions during person recognition. Annual Meeting of the Organization for Human Brain Mapping, Hamburg, Germany, June 8-12, 2014.
- Mania, P. A., Schneider, T.R., Engel, A.K., Röder, B., & Heed, T. (2014). Direction-selective gamma band synchronization in PPC differs between hand and foot movement planning. Annual Meeting of the Society for the Neural Control of Movement, Amsterdam, The Netherlands, April 22-25, 2014.
- Mania, P. A., Schneider, T.R., Engel, A.K., Röder, B., & Heed, T. (2014). Direction-selective gamma band synchronization in PPC differs between hand and foot movement planning. *40<sup>th</sup> Annual Meeting "Psychologie und Gehirn", Lübeck, Germany, June 19-21, 2014.*
- Röder, B. (2014). Multisensorische Verarbeitung beim Menschen. Annual Meeting of the German Academy of Science Leopoldina, Halle, Germany, September 19-21, 2014.
- Schubert, J.T.W., Buchholz, V.N., Föcker, J., Engel, A.K., Röder, B., & Heed, T. (2014). Oscillatory activity in the alpha and beta range reflect tactile spatial coordinates. *40<sup>th</sup> Annual Meeting "Psychologie und Gehirn", Lübeck, Germany, June 19-21, 2014.*
- Schubert, J.T.W., Buchholz, V.N., Föcker, J., Engel, A.K., Röder, B., & Heed, T. (2014). EEG source-level oscillations reflect tactile spatial coordinates in sighted and in

- blind humans. Annual Meeting of the Organization for Human Brain Mapping, Hamburg, Germany, June 8-12, 2014.
- Sürig, R., Bottari, D., & Röder, B. (2014). Transfer of audio-visual training. 15<sup>th</sup> International Multisensory Research Forum (IMRF), Amsterdam, The Netherlands, June 11-14, 2014.
- Villwock, A.K., Bottari, D., Röder, B. (2014). Visual processing in human striate cortex as a result of congenital deafness. 44<sup>th</sup> Meeting of the Society for Neuroscience, Washington, D.C., November 15-19, 2014.

## 2013

- Badde, S., Heed, T., & Röder, B. (2013). Touch localization under coordinate conflict. *Congress of the German Neuroscience Society, Göttingen, Germany, March 13-16, 2013.*
- Badde, S., Heed, T., & Röder, B. (2013). Modelling body posture effects on reference frame integration. *In: Multisensory Research. Volume 26, Abstracts of the 14th International Multisensory Research Forum, The Hebrew University in Jerusalem, Israel, June 3–6, 2013.*
- Bottari, D., Ley, P., Shenoy, B.H., Kekunnaya, R., & Röder, B. (2013). Sensitive periods for the functional specialization of multisensory and visual processes. Invited speaker at the symposium Functional Consequences of Sensory Loss and Restoration. FENS Regional meeting, Prague; September 13, 2013.
- Bottari, D., Troje, N., Ley, P., Shenoy, B.H., Kekunnaya, R., & Röder, B. (2013). Early visual experience is necessary to shape global motion neural system but not biological motion. *Annual meeting of the Society for Neuroscience (SfN), San Diego, USA, November, 9-13, 2013.*
- Bruns, P., Renzi, C., Heise, K.-F., Zimmerman, M., Feldheim, J.-F., Hummel, F. C., & Röder, B. (2013). Spatial remapping in the audio-tactile ventriloquism effect: a TMS investigation on the role of the ventral intraparietal area. *5<sup>th</sup> International Conference on Non-Invasive Brain Stimulation, Leipzig, Germany, March 19-21, 2013.*
- Johannsen, J. Gädeke, J., Pagel, B., & Röder, B. (2013). Intra and crossmodal refractory period effects in healthy children and adults: An ERP study. *39<sup>th</sup> annual meeting of the Society of Neuropediatrics, Innsbruck, Austria, April 25-28, 2013,*
- Ley, P. & Röder, B. (2013). Dissociating sensory attention and motor preparation: an ERP study. *In: Multisensory Research. Volume 26, Abstracts of the 14th International Multisensory Research Forum, The Hebrew University in Jerusalem, Israel, June 3–6, 2013.*
- Röder, B. (2013) Spatial remapping of sensory input depends on early visual input. *Biennial Meeting of the Society for Research in Child Development. Seattle, April 18-21, 2013.*
- Röder, B., Ley, P., Shenoy, H.S., Kekunnaya, R., & Bottari, D. (2013). Functional recovery in cataract-reversal patients: Behavioral indices and neural correlates. *Asian ARVO, New Delhi, October 28-31, 2013.*

- Schild, U., Röder, B., & Friedrich, C. (2013). Stress and phonemes processing in word comprehension in pre-reading preschoolers to beginning readers. *WILD – Workshop on infant language development of the Basque Center on Cognition, Brain and Languages, June 20-22, 2013.*
- Schubert, J., Heed, T., Föcker, J., & Röder, B. (2013). External spatial coordinates for tactile spatial attention are reflected in prestimulus oscillations in sighted but not in blind individuals. *International Multisensory Research Forum (IMRF), Jerusalem, Israel, June 3-6, 2010.*
- Sieben, K., Röder, B., & Hanganu-Opatz, I. (2013). The development of cross-modal processing in the rat primary somatosensory cortex. *Congress of the German Neuroscience Society, Göttingen, Germany, March 13-16, 2013.*

## 2012

- Badde, S., Heed, T., & Röder, B. (2012). Touch remapping is automatic but top-down modulated. *Annual Meeting of the Society for Neuroscience (SfN), New Orleans, USA, October 13-17, 2012.*
- Bottari, D., Rohlf, S., Hense, M., Habets, B., & Röder, B. (2012). Intramodal and crossmodal refractory effects: Evidence from oscillatory brain activity. *In: Seeing and Perceiving. Volume 25, Abstracts of the 13th International Multisensory Research Forum, University of Oxford, UK, June 19–22, 2012.*
- Bottari, D., Ley, P., Shenoy, B.H., Kekunnaya, R., & Röder, B. (2012). Early visual experience for the development of the neural systems relating to holistic face processing. *Annual Meeting of the Society for Neuroscience (SfN), New Orleans, USA, October 13-17, 2012.*
- Bruns, P., Camargo, C.J., Campanella, H., Esteve, J., & Röder, B. (2012). Tactile acuity charts: a reliable measure of spatial resolution. *54<sup>th</sup> Tagung experimentell arbeitender Psychologen (TeaP), Mannheim, Germany, April 1-4, 2012.*
- Bruns, P. & Röder, B. (2012). Frequency and specificity of the ventriloquism aftereffect revisited. *4<sup>th</sup> International Conference on Auditory Cortex, Lausanne, Switzerland, September 1-3, 2012.*
- Habets, B., Hense, M., Bottari, D., & Röder, B. (2012). Intra- and crossmodal refractory effects in auditory and somatosensory ERPs. *In: Seeing and Perceiving. Volume 25, Abstracts of the 13th International Multisensory Research Forum, University of Oxford, UK, June 19–22, 2012.*
- Heed, T. & Röder, B. (2012). Spatial codes for movement coordination do not depend on developmental vision. *In: Seeing and Perceiving. Volume 25, Abstracts of the 13th International Multisensory Research Forum, University of Oxford, UK, June 19–22, 2012.*
- Hense, M., Habets, B., & Röder, B. (2012). Recovery periods of event-related potentials indicating crossmodal interactions between the visual, auditory and tactile system. *In: Seeing and Perceiving. Volume 25, Abstracts of the 13th International Multisensory Research Forum, University of Oxford, UK, June 19–22, 2012.*

- Hötting, K., Holzschneider, K. & Röder, B. (2012). A combined physical exercise and cognitive training modulate functional brain activations during spatial learning. 48. *Kongress der Deutschen Gesellschaft für Psychologie, Bielefeld, Germany, September 23.-27, 2012.*
- Juravle, G., Heed, T., Spence, Ch., & Röder, B. (2012). Electrophysiological correlates of tactile and visual perception during goal-directed movement. *In: Seeing and Perceiving. Volume 25, Abstracts of the 13th International Multisensory Research Forum, University of Oxford, UK, June 19–22, 2012.*
- Ley, P., Bottari, D., Hariprasad Shenoy, B., Kekunnaya, R., & Röder, B. (2012). *In: Seeing and Perceiving. Volume 25, Abstracts of the 13th International Multisensory Research Forum, University of Oxford, UK, June 19–22, 2012.*
- Ley, P., Bottari, D., Shenoy, B.H., Hoetting, K., Kekunnaya, R., & Röder, B. (2012). Restricted recovery of external remapping of tactile stimuli after restoring vision in a congenitally blind man. *Annual Meeting of the Society for Neuroscience (SfN), New Orleans, USA, October 13-17, 2012.*
- Maiworm, M., Bellantoni, M., Spence, Ch., & Röder, B. (2012). The size of the ventriloquist effect is modulated by emotional valence. *In: Seeing and Perceiving. Volume 25, Abstracts of the 13th International Multisensory Research Forum, University of Oxford, UK, June 19–22, 2012.*
- Röder, B., Pagel, B., & Heed, T. (2012). The development of intramodal and crossmodal temporal order judgments. *In: Seeing and Perceiving. Volume 25, Abstracts of the 13th International Multisensory Research Forum, University of Oxford, UK, June 19–22, 2012.*
- Schild, U., Röder, B., & Friedrich, C.K. Word stress and phoneme processing in congenitally blind adults. *CNS Annual Meeting, Chicago, USA, March 31 - April 03, 2012.*
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