

6. Literaturverzeichnis

Name, Vorname (Jahr). Titel. Zeitschrift oder Buch, Band oder Auflage, Seite.

- Aaltonen, O., Eerola, O., Lang, A.H., Uusipaikka, E., Tuomainen, J. (1994). Automatic discrimination of phonetically relevant and irrelevant vowel parameters as reflected by mismatch negativity. *J Acoust Soc Am*, 96, 1489-1493.
- Aaltonen, O., Niemi, P., Nyrke, T., Tuhkanen, M. (1987). Event-related brain potentials and the perception of a phonetic continuum. *Biol Psychol*, 24, 197-207.
- Aaltonen, O., Tuomainen, J., Laine, M. and Niemi, P. (1993). Cortical differences in tonal versus vowel processing as revealed by an ERP component called mismatch negativity (MMN). *Brain Lang*, 44, 139-152.
- Alho, K. (1995). Cerebral generators of mismatch negativity (MMN) and its magnetic counterpart (MMNm) elicited by sound changes. *Ear Hear*, 16, 38-51.
- Alho, K., Sainio, K., Sajaniemi, N., Reinikainen, K., Näätänen, R. (1990). Event-related brain potential of human newborns to pitch change of an acoustic stimulus. *Electroencephalogr Clin Neurophysiol*, 77, 151-155.
- Alho, K., Woods, D.L., Algazi, A., Knight, R.T., Näätänen, R. (1994) Lesions of frontal cortex diminish the auditory mismatch negativity. *Electroencephalogr Clin Neurophysiol*, 91, 353-362.
- Alienza, M., Cantero, J.L., Gomez, C.M. (2001). The initial orientation response during human REM sleep as revealed by the N1 component of auditory event-related potentials. *Int J Psychophysiol*, Jun 41 (2), 131-41.
- Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften (AWMF) Leitlinien-Register (1998). Sprachentwicklungsstörung. *AWMF-Leitlinien-Register Nr. 049/006.*, <http://www.uni-duesseldorf.de/WWW/AWMF/ll/phon-006.htm>
- Atienza, M., Cantero, J.L., Escera, C. (2001a). Auditory information processing during human sleep as revealed by event-related brain potentials. *Clin Neurophysiol*, Nov 112 (11), 2031-45.
- Atienza, M., Cantero, J.L., Gomez, C.M. (1997). The mismatch negativity component reveals the sensory memory during REM sleep in humans. *Neurosci Lett*, 237, 21-24.
- Barnet, A.B. (1975). Auditory evoked potentials during sleep in normal children from ten days to three years of age. *Electroencephalogr Clin Neurophysiol*, 39, 29-41.
- Barrett, K.A., Fulfs, J.M. (1998). Effect of gender on the mismatch negativity auditory evoked potential. *J Am Acad Audiol*, Dec; 9 (6), 444-51.
- Baumann, S.B., Rogers, R.L., Guinto, F.C., Saydjari, C.L., Papanicolaou, A.C., Eisenberg, H.M. (1991). Gender differences in source location for the N100 auditory evoked magnetic field. *Electroencephalogr Clin Neurophysiol*, Jan-Feb 80 (1), 53-9.
- Baumann, U., Schorn, K. (2001). Früherkennung kindlicher Hörschäden. *HNO*, 49,118-125.
- Bidlingmaier, F. (1980). Sex differences in the secretion of gonadotropins and sex hormones in newborns and infants. *Fortschr Med*, Feb 21; 98 (7), 235-8.
- Bigenzahn, W. (2001). Sprach-, Sprech-, Stimm-, und Schluckstörungen. Hrsg.: Boehme, G., 3. Auflage, Stuttgart, Jena, Lübeck, Ulm, Fischer.

- Bishop, D.V. (2000). How does the brain learn language? Insights from the study of children with and without language impairment. *Dev Med Child Neurol*, Feb, 42 (2), 133-42.
- Bishop, D.V., Adams, C. (1990). A prospective study of the relationship between specific language impairment, phonological disorders and reading retardation. *J Child Psychol Psychiatry*, 31 (7), 1027-1050.
- Bishop, D.V.M., North, T., Donlan, C. (1995). Genetic basis of specific language impairment: Evidence from a twin study. *Dev Med Child Neurol*, 37, 56-71.
- Brandt, I. (1983). Deutsche Bearbeitung: Griffiths Entwicklungsskalen (GES) zur Beurteilung der Entwicklung in den ersten beiden Lebensjahren. *Weinheim, Basel, Beltz*.
- Brinkmann, K. (1992). Europäische und internationale Normen - Voraussetzung für einheitliches Messen in der Akustik. *PTB-Mitt*, 102, 107-114.
- Campbell, K., Bell, I., Bastien, C. (1992). Evoked potential measures of information processing during natural sleep. In *Broughton, R. J., Ogilvie, R. D., (Eds.). Sleep, arousal and performance, Boston, Birkhauser, 88-116*.
- Campbell, K.B. (2000). Information processing during sleep onset and sleep. *Can J Exp Psychol*, Dec 54 (4), 209-29.
- Catts, H.W. (1993). The relationship between speech-language impairments and reading disabilities. *J Speech Hear Res*, 36, 948-58.
- Čeponienė, R., Cheour, M., Näätänen, R. (1998). Interstimulus interval and auditory event-related potentials in children: Evidence for multiple generators. *Electroencephalogr Clin Neurophysiol*, 108, 345-354.
- Čeponienė, R., Hukki, J., Cheour, M., Haapanen, M.L., Koskinen, M., Alho, K., Näätänen, R. (2000). Dysfunction of the auditory cortex persists in infants with certain cleft types. *Dev Med Child Neurol*, 42, 258-265.
- Čeponienė, R., Service, E., Kurjenluoma, S., Cheour, M., Näätänen, R. (1999). Children's performance on pseudoword repetition depends on auditory trace quality: evidence from event-related potentials. *Dev Psychol*, 35, 709-720.
- Cheour M., Čeponienė, R., Leppänen P., Alho K., Kujala T., Renlund M., Fellman V., Näätänen R. (2002). The auditory memory trace decays rapidly in newborns. *Scand Journal of Psychology*, 43, 33-39.
- Cheour, M., Čeponienė, R., Lehtokoski, A., Luuk, A., Allik, J., Alho, K., Näätänen, R. (1998a). Development of language-specific phoneme representation in the infant brain. *Nature Neuroscience*, 1, 351-353.
- Cheour, M., Alho, K., Čeponienė, R., Reinikainen, K., Sainio, K., Pohjavuori, M., Aaltonen, O., Näätänen, R. (1998). Maturation of mismatch negativity in infants. *Int J Psychophysiol*, 29, 217-226.
- Cheour, M., Alho, K., Sainio, K., Reinikainen, K., Renlund, M., Aaltonen, O., Eerola, O., Näätänen, R. (1997). The mismatch negativity to changes in speech sounds at the age of three months. *Dev Neurophysiology*, 13 (2), 167-174.
- Cheour, M., Korpilahti, P., Martynova, O., Lang, A.H. (2001). Mismatch Negativity and Late Discriminative Negativity in Investigating Speech Perception and Learning in Children and Infants. *Audiology Neurootol*, 6, 2-11.
- Cheour, M., Leppänen, P.H.T., Kraus, N. (2000). Mismatch negativity (MMN) as a tool for investigating auditory discrimination and sensory memory in infants and children. *ClinNeurophysiology*, 111, 4-16.

- Cheour, M., Martynova, O., Näätänen, R., Errkola, R., Sillanpää, M., Kero, P., Raz, A., Kaipio, M.L., Hiltunen, J., Aaltonen, O., Savela, J., Hamalainen, H. (2002a). Speech sounds learned by sleeping newborns. *Nature*, Feb 7, 415 (6872), 599-600.
- Cheour-Luhtanen, M., Alho, K., Kujala, T., Sainio, K., Reinikainen, K., Renlund, M., Aaltonen, O., Eerola, O., Näätänen, R. (1995). Mismatch negativity indicates vowel discrimination in newborns. *Hear Res*, 82, 53-58.
- Cheour-Luhtanen, M., Alho, K., Sainio, K., Rinne, T., Reinikainen, K., Pohjavuori, M., Renlund, M., Aaltonen, O., Eerola, O., Näätänen, R. (1996). The ontogenetically earliest discriminative response of the human brain. *Psychophysiology*, 33, 478-481.
- Coles, M.G.H., Rugg, M.D. (1996). Event-related brain potentials: An introduction. In Rugg, M. D. and Coles, M. G. H., *Electrophysiology of mind. Event-related brain potentials and cognition. Oxford Psychology Series, Vol. 25, Oxford: Oxford University Press.*
- Cooper, R., Osselton, J.W., Shaw, J.C. (1984). *Elektroenzephalographie. 3. Auflage, Stuttgart, Fischer.*
- Courchesne, E. (1990). Event related potentials. In J. Rohrbaugh, R., Parasuraman and Johnson, R. (Eds.), *Chronology of postnatal human development: Event related potentials, positron emission tomography; myelinogenesis and synaptogenesis. New Oxford University Verlag, 210-241.*
- Courchesne, E., Ganz, L., Norcia, A. (1981). Event-related potentials to human faces in infants. *Child Dev*, 52, 804-811.
- Cowan, N., Winkler, I., Teder, W., Näätänen, R. (1993). Memory prerequisites of mismatch negativity in the auditory event-related potential (ERP). *J Exp Psychol Learn Mem Cogn*, 19, 909-921.
- Csepe, V. (1995). On the origin and development of the mismatch negativity. *Ear Hear*, 16, 91-104.
- Csepe, V., Gyurkosza, E.E. (1998). Normal and disturbed phoneme perception: MMN in dyslexia. In Tervaniemi M., Escera, C. (Eds.), *Abstracts of the First International Workshop on MMN and its Clinical Application. Helsinki, University of Helsinki.*
- Csepe, V., Karmos, G., Molnar, M. (1987). Evoked potential correlates of stimulus deviance during wakefulness and sleep in cat - animal model of mismatch negativity. *Electroencephalogr Clin Neurophysiol*, 66, 571-578.
- Curio, G., Neuloh, G., Numminen, J., Jousmäki, V., Hari, R. (2000). Speaking modulates voice-evoked activity in the human auditory cortex. *Human Brain Mapping*, 9, 183-191.
- Dawson, G., Finley, C., Phillips, S., Lewy, A. (1989). A comparison of hemispheric asymmetries in speech-related brain potentials of autistic and dysphasic children. *Brain Lang*, 37, 26-41.
- Dehaene-Lambertz, G. (2000). Cerebral specialization for speech and non-speech stimuli in infants. *J Cogn Neurosci*, 12, 449-460.
- Dehaene-Lambertz, G., Dehaene, S. (1994). Speed and cerebral correlates of syllable discrimination in infants. *Nature*; 370, 292-251.
- Denays, R., Tondeur, M., Foulon, M., Verstraeten, F., Ham, H., Piepsz, A., Noel, P. (1989). Regional blood flow in congenital dysphasia: Studies with Technetium-99m HM-PAO SPECT. *J Nuclear Medicine*, 30, 1825-1829.
- Duclaux, R., Challamel, M.J., Collet, L., Rouillet-Solignac, I., Revol, M. (1991). Hemispheric asymmetry of late auditory evoked responses induced by pitch changes in infants: influence of sleep stages. *Brain Res*, Dec 6, 566 (1-2), 152-8.

- Duden (2001). Die deutsche Rechtschreibung, Auf der Grundlage der neuen amtlichen Rechtschreibregeln. 22. Auflage, Duden Band 1, Mannheim, Leipzig, Wien, Zürich, Dudenverlag.
- Eggermont, J.J. (1985). Evoked potentials as indicators of auditory maturation. *Acta Otolaryngol Suppl*, 421, 41-47.
- Eggermont, J.J. (1988). On the rate of maturation of sensory evoked potentials. *Acta Otolaryngol*, 70, 293-305.
- Eggermont, J.J. (1992). Development of auditory evoked potentials. *Acta Otolaryngol*, 112, 197-200.
- Ernst, A., Battmer, RD. (1998). Audiometrie und Funktionsdiagnostik in der HNO. *Chapman & Hall GmbH*.
- ERTS – V3.32c VGA/ERP (1997). *Experimental Run Time System, Behringer*.
- Escera, C., Alho, K., Schröger, E., Winkler, I. (2000): Involuntary Attention and Distractability as Evaluated with Event-Related Brain Potentials. *Audiology Neuro-Otology*, 5, 151-166.
- Finck-Krämer, U., Gross, M., Bartsch, M., Kewitz, G., Versmold, H., Hess, M. (2000). Hörscreening von Neugeborenen mit Risikofaktoren. *HNO*, 48, 215-220.
- Friederici, A.D. (1997). Neurophysiological aspects of language processing. *Clin Neuroscience*, 4 (2), 64-72.
- Friederici, A.D., Friedrich, M., Weber, C. (2002). Neural manifestation of cognitive and precognitive mismatch detection in early infancy. *NeuroReport*, Jul 19, 13 (10), 1251-4.
- Gaeta, H., Friedman, D., Ritter, W., Cheng, J. (1999). Changes in sensitivity to stimulus deviance in Alzheimer's disease: an ERP perspective. *NeuroReport*, 10, 281-287.
- Gassler, N., Peuschel, T., Pankau, R. (2000). Pediatric reference values of estradiol, testosterone, lutropin, follitropin and prolactin. *Clin Lab*, 46 (11-12), 553-60.
- Gauger, L.M., Lombardino, L.J., Leonard, C.M. (1997). Brain morphology in children with specific language impairment. *J Speech and Hearing Research*, 40, 1272-1284.
- Giard, M.H., Perrin, F., Pernier, J., Bouchet, P. (1990). Brain generators implicated in the processing of auditory stimulus deviance: a topographic event-related potential study. *Psychophysiology*, 27, 627-640.
- Golgeli, A., Suer, C., Ozesmi, C., Dolu, N., Ascioğlu, M., Sahin, O. (1999). The effect of sex differences on event-related potentials in young adults. *Int J Neurosci*, 99, 69-77.
- Gomot, M., Giard, M.H., Roux, S., Barthelemy, C. and Bruneau, N., Maturation of frontal and temporal components of mismatch negativity (MMN) in children, *Neuroreport*, 11 (2000) 3109-3112.
- Gopnik, M., Crago, M. (1991). Familial aggregation of a developmental language disorder. *Cognition*, 39, 1-50.
- Graziani, L.J., Katz, L., Cracco, R., Q., Cracco, J.B., Weitzmann, E.D. (1974). The maturation and interrelationship of EEG patterns and auditory evoked responses in premature infants. *Electroencephalography and Clinical Neurophysiology*, 36, 367-375.
- Grimm, H. (1999). Störungen der Sprachentwicklung. *Göttingen, Hogrefe*.
- Groenen, P., Snik, A., van den Broek, P. (1996). On the clinical relevance of mismatch negativity: results from subjects with normal hearing and cochlear implant users. *Audiol Neurootol*, 1, 112-124.
- Gross, M., Dudenhausen, J.W., Rossi, R., Metschke, R., Ernst, A. (2002). Neugeborenen Hörscreening in Berlin – interdisziplinäre Berliner Initiative. In: *Berliner Ärzte, Heft 05/02*

- Guttorm, T.K., Leppänen P.H.T., Richardson, U., Lyytinen, H. (2001). Event-Related potentials and consonant differentiation in newborns with familial risk for dyslexia. *Journal of Learning Disabilities, Dec 34 (6), 534-44.*
- Hegerl, U., Gaebel, W., Gutzman, H., Ulrich, G. (1988). Auditory evoked potentials as possible predictors of outcome in schizophrenic outpatients. *Int J Psychophysiol, 6, 207-214.*
- Hirayasu, Y., Potts, G.F., O'Donnell, B.F., Kwon, J.S., Arakaki, H., Akdag, S.J., Levitt, J.J., Shenton, M.E. and McCarley, R.W. (1998). Auditory mismatch negativity in schizophrenia: topographic evaluation with a high-density recording montage. *Am J Psychiatry, 155, 1281-1284.*
- Holopainen, I.E., Korpilahti, P., Juottonen, K., Lang, H., Sillanpaa, M. (1997). Attenuated auditory event-related potential (mismatch negativity) in children with developmental dysphasia. *Neuropediatrics, 28, 253-256.*
- Holopainen, I.E., Korpilahti, P., Juttonen, K., Lang, H., Sillanpaa, M. (1998). Abnormal frequency mismatch negativity in mentally retarded children and in children with developmental dysphasia. *J Child Neurol, Apr 13 (4), 178-83.*
- Huttenlocher, P.R., de Courten, C., Garey, L.J., Van der Loos, H. (1982-83). Synaptic development in human cerebral cortex. *Int J Neurol, 16-17, 144-154.*
- Javitt, D.C. (2000). Intracortical mechanisms of mismatch negativity dysfunction in schizophrenia. *Audiol Neurootol, 5, 207-215.*
- Javitt, D.C., Schroeder, C.E., Steinschneider, M., Arezzo, J.C., Vaughan, H.G.J. (1992). Demonstration of mismatch negativity in the monkey. *Electroencephalogr Clin Neurophysiol, 83, 87-90.*
- Javitt, D.C., Steinschneider, M., Schroeder, C.E., Vaughan, H.G.J., Arezzo, J.C. (1994). Detection of stimulus deviance within primate primary auditory cortex: intracortical mechanisms of mismatch negativity (MMN) generation. *Brain Res, 667, 192-200.*
- Kane, N.M., Butler, S.R., Simpson, T. (2000). Coma outcome prediction using event-related potentials: P(3) and mismatch negativity. *Audiol Neurootol, 5, 186-191.*
- Kasai, K., Nakagome, K., Iwanami, A., Fukuda, M., Itoh, K., Koshida, I., Kato, N. (2002). No effect of gender on tonal and phonetic mismatch negativity in normal adults assessed by a high resolution EEG recording. *Brain Res Cogn Brain Res, May; 13 (3), 305-12.*
- Kaukoranta, E., Sams, M., Hari, R., Hamalainen, M., Näätänen, R. (1989). Reactions of human auditory cortex to a change in tone duration. *Hear Res, 41, 15-21.*
- Kazmerski, V.A., Friedman, D., Ritter, W. (1997). Mismatch negativity during attend and ignore conditions in Alzheimer's disease. *Biol Psychiatry, 42, 382-402.*
- Kemner, C., Verbaten, M.N., Koelega, H.S., Camfferman, G., van Engeland, H. (1998). Are abnormal event-related potentials specific to children with ADHD? A comparison with two clinical groups. *Percept Mot Skills, 87, 1083-1090.*
- Korpilahti, P., Krause, C.M., Holopainen, I., Lang, A.H. (2001). Early and late mismatch negativity elicited by words and speech-like stimuli in children. *Brain Lang, Mar, 76 (3), 332-9.*
- Korpilahti, P., Lang, A.H. (1996). Electrophysical correlates of auditory perception in normal and language impaired children. *Turku, Painosalama Oy.*
- Korpilahti, P., Lang, A.H., Aaltonen, O. (1995). Is there a late-latency mismatch negativity (MMN) component? *Electroencephalogr Clin Neurophysiol, 95, 96-96.*

- Korpilahti, P., Lang, H.A. (1994). Auditory ERP components and mismatch negativity in dysphasic children. *Electroencephalogr Clin Neurophysiol*, 91, 256-264.
- Korpilahti, P., Myllylä, A., Holopainen, I. (1998). Maturational and training-driven changes in the MMN in language impaired children. In Tervaniemi, M. and Escera, C. (Eds.), *Abstracts of the First International Workshop on MMN and its Clinical Applications*. Helsinki, University of Helsinki.
- Kraus, N. and McGee, T. (1994). Auditory event-related potentials. In J. Katz (Ed.), *Handbook of clinical audiology*, Williams & Wilkins, Baltimore, Hongkong, London, Munich, Tokyo, S. 403-423.
- Kraus, N., Cheour, M. (2000). Speech sound representation in the brain. *Audiol Neurootol*, 5, 140-150.
- Kraus, N., Koch, D.B., McGee, T.J., Nicol, T.G. and Cunningham, J., Speech-sound discrimination in school-age children: psychophysical and neurophysiologic measures. *J Speech Lang Hear Res*, 42 (1999) 1042-1060.
- Kraus, N., McGee, T., Carrell, T., King, C., Littman, T., Nicol, T. (1994). Discrimination of speech-like contrasts in the auditory thalamus and cortex. *J Acoust Soc Am*, 96, 2758-2768.
- Kraus, N., McGee, T., Carrell, T., Sharma, A., Micco, A., Nicol, T. (1993). Speech-evoked cortical potentials in children. *J Am Acad Audiol*, 4, 238-248.
- Kraus, N., McGee, T., Micco, A., Sharma, A., Carrell, T. and Nicol, T., Mismatch negativity in school-age children to speech stimuli that are just perceptibly different, *Electroencephalogr Clin Neurophysiol*, 88 (1993) 123-130.
- Kraus, N., McGee, T., Sharma, A., Carrell, T. and Nicol, T., Mismatch negativity event-related potential elicited by speech stimuli, *Ear Hear*, 13 (1992) 158-164.
- Kraus, N., McGee, T.J., Carrell, T.D., Zecker, S.G., Nicol, T.G., Koch, D.B. (1996). Auditory neurophysiologic responses and discrimination deficits in children with learning problems. *Science*, 273, 971-973.
- Kraus, N., McGee, T.J., Koch, D.B. (1998). Speech sound perception and learning: biologic bases. *Scand Audiol Suppl*, 49, 7-17.
- Kraus, N., Micco, A.G., Koch, D.B., McGee, T., Carrell, T., Sharma, A., Wiet, R.J. and Weingarten, C.Z. (1993). The mismatch negativity cortical evoked potential elicited by speech in cochlear-implant users. *Hear Res*, 65, 118-124.
- Kraus, N., Smith, D.I., Reed, N.L., Stein, L.K., Cartee, C. (1985). Auditory middle latency responses in children: effects of age and diagnostic category. *Electroencephalogr Clin Neurophysiol*, 62, 343-351.
- Kraus, N., Smith, D.I., Reed, N.L., Stein, L.K., Cartee, C., (1985). Auditory middle latency responses in children: effects of age and diagnostic category. *Electroencephalogr Clin Neurophysiol*, 62, 343-351.
- Kropotov, J.D., Naatnen, R., Sevostianov, A.V., Alho, K., Reinikainen, K., Kropotova, O.V. (1995). Mismatch negativity to auditory stimulus change recorded directly from the human temporal cortex. *Psychophysiology*, 32, 418-422.
- Kulynych, J.J., Vldar, K., Jones, D.W., Weinberger, D.R. (1994). Gender differences in the normal lateralization of the supratemporal cortex: MRI surface-rendering morphometry of Heschl's gyrus and the planum temporale. *Cereb Cortex*, 4, 107-118.
- Kurtzberg, D., Hilpert, P.L., Kreuzer, J.A., Vaughan, H.G.J. (1984). Differential maturation of cortical auditory evoked potentials to speech sounds in normal fullterm and very low-birthweight infants. *Dev Med Child Neurol*, 26, 466-475.

- Kurtzberg, D., Stone, Ch.L., Vaughan, H.G. (1996). Cortical responses to speech sounds in the infant. *Evoked Potentials*, 513-520.
- Kurtzberg, D., Vaughan, H.G.J., Kreuzer, J.A., Fliegler, K.Z. (1995). Developmental studies and clinical application of mismatch negativity: problems and prospects. *Ear Hear*, 16, 105-117.
- Kurtzberg, D., Vaughan, H.G.J. (1985). Electrophysiological assessment of auditory and visual function in the newborn. *Clin Perinatol*, 12, 277-297.
- Kurtzberg, D., Vaughan, H.G.J., Courchesne, E., Friedman, D., Harter, M.R., Putnam, L.E. (1984). Developmental aspects of Event-related Potentials. *Ann NY Acad Sci*; 425, 300-18.
- Kushnerenko, E., Cheour, M., Ceponiene, R. (2001). Central auditory processing of durational changes in complex speech patterns by newborns: an event related brain potential study. *Dev Neurophysiology*, 19, 83-97.
- Kushnerenko, E., Ceponiene, R., Balan, P., Fellman, V., Näätänen, R. (2002). Maturation of the auditory change detection response in infants: a longitudinal ERP study. *NeuroReport*. Oct 28;13(15):1843-8.
- Lang, A.H., Aaltonen, O., Raimo, I., Hellstrom, A. (1998). Mismatch Negativity elicited by complex tones. In *1st Int Workshop on MMN and its Clin Applications*. Helsinki, Oct, 1998.
- Lange, K.B. (2002). Untersuchung der Phonemdiskrimination bei normalentwickelten Schulkindern mit ereigniskorrelierten Potenzialen. *Inaugural Dissertation zur Erlangung der medizinischen Doktorwürde, aus der Klinik für Audiologie und Phoniatrie des Universitätsklinikum Benjamin Franklin der Freien Universität Berlin*.
- Lauer, N. (1999). Zentral-auditive Verarbeitungsstörung im Kindesalter – Grundlagen – Klinik – Diagnostik – Therapie, *Stuttgart, Thieme*.
- Leonard, L. (1998). Children with Specific Language Impairment. *Cambridge, MA, The MIT Press*.
- Leppänen, P.H., Lyytinen, H. (1997). Auditory event-related potentials in the study of developmental language-related disorders. *Audiol Neurootol*, 2, 308-340.
- Leppänen, P.H.T., Choudhury, N., Benasich, A., Lyytinen, H. (im Druck). Neuroimaging measures in the study of specific language impairments in children.
- Leppänen, P.H.T., Eklund, K.M., Lyytinen, H. (1997). Event related brain potentials to change in rapidly presented acoustic stimuli in newborns. *Dev Neuropsychology*, 13 (2), 175-204.
- Leppänen, P.H.T., Lyytinen, H. (1997). Auditory Event-related Potentials in the Study of Developmental Language-Related Disorders. *Audiology Neuro Otology*, 2, 308-340.
- Leppänen, P.H.T., Pihko, E., Eklund, K.M. and Lyytinen, H. (1999). Cortical responses of infants with and without a genetic risk for dyslexia: II. Group effects. *NeuroReport*, 10, 969-973.
- Liasis, A., Towell, A., Boyd, S. (1999). Intracranial auditory detection and discrimination potentials as substrates of echoic memory in children. *Brain Res Cogn Brain Res*, 7, 503-506.
- Lincoln, A.J., Courchesne, E., Harms, L., Allen, M. (1995). Sensory modulation of auditory stimuli in children with autism and receptive developmental language disorder: event-related brain potential evidence. *J Autism Dev Disord*, 25, 521-539.

- Livingstone, M. (1993). Parallel processing in the visual system and the brain: Is one of the subsystems selectively affected in dyslexia? In Galaburda, A.M. (Ed.), *Dyslexia and Development: Neurobiological Aspects of Extra-Ordinary Brains*, Harvard University Press, Cambridge, 237-256.
- Lou, H.C., Hendriksen, L., Bruhn, P. (1984). Focal cerebral hypo-perfusion in children with dysphasia and/or attention deficit disorder. *Archives of Neurology*, 41, 825-829.
- Ludlow, C.L., Cooper, J.A. (1983). Genetic aspects of speech and language disorders. *New York: Academic Press*.
- Mantysalo, S., Näätänen, R. (1987). The duration of a neuronal trace of an auditory stimulus as indicated by event-related potentials. *Biol Psychol*, 24, 183-195.
- Mason, S.M., Mellor, D.H. (1984). Brainstem, middlelatency and latecortical evoked potentials in children with speech and language disorders. *EEG and Clinical Neurophysiology*, 59, 297-309.
- McArthur, G.M., Hogben, J.H., Edwards, V.T., Heath, S.M., Mengler, E.D. (2000). On the "specifics" of specific reading disability and specific language impairment. *J Child Psychol Psychiatry*, 41 (7), 869-74.
- McGee, T., Kraus, N., Nicol, T. (1997). Is it really a mismatch negativity? An assessment of methods for determining response validity in individual subjects. *Electroencephalogr Clin Neurophysiol*, 104, 359-368.
- Mochizuki, Y., Go, T., Ohkubo, H., Motomura, T. (1983). Development of human brainstem auditory evoked potentials and gender differences from infants to young adults. *Prog Neurobiol*, 20, 273-285.
- Mody, M., Studdert-Kennedy, M., Brady, S. (1997). Speech perception deficits in poor readers: auditory processing or phonological coding? *J Exp Child Psychology*, 64, 199-231.
- Molfese, D.L. (1990). Auditory evoked responses recorded from 16-month-old infants to words they did and did not know. *Brain Lang*, Apr 38 (3), 345-63.
- Morr, M.L., Shafer, V.L., Kreuzer, J.A., Kurtzberg, D. (2002) Maturation of mismatch negativity in typically developing infants and preschool children. *Ear Hear*, Apr 23(2), 118-36.
- Mrowinski, D., Scholz, G. (2001). Audiometrie: eine Anleitung für die praktische Hörprüfung. 2. aktualisierte und erweiterte Auflage, Stuttgart; New York, Thieme.
- Näätänen, R. (1992). Attention and brain function, *Lawrence Erlbaum-Verlag*.
- Näätänen, R. (1995). The mismatch negativity: a powerful tool for cognitive neuroscience. *Ear Hear*, 16, 6-18.
- Näätänen, R. and Picton, T. (1987). The N1 wave of the human electric and magnetic response to sound: a review and an analysis of the component structure. *Psychophysiology*, 24, 375-425.
- Näätänen, R., Gaillard, A.W., Mantysalo, S. (1978). Early selective-attention effect on evoked potential reinterpreted. *Acta Psychol*, Jul 42 (4), 313-29.
- Näätänen, R., Lehtokoski, A., Lennes, M., Cheour, M., Huotilainen, M., Iivonen, A., Vainio, M., Alku, P., Ilmoniemi, R.J., Luuk, A., Allik, J., Sinkkonen, J., Alho, K. (1997). Language-specific phoneme representations revealed by electric and magnetic brain responses. *Nature*, 385, 432-434.
- Näätänen, R., Michie, P.T. (1979). Early selective attention effects on the evoked potentials, A critical review. *Biol Psychol*, 8, 81-136.

- Näätänen, R., Paavilainen, P., Alho, K., Reinikainen, K., Sams, M. (1987). The mismatch negativity to intensity changes in an auditory stimulus sequence. *Electroencephalogr Clin Neurophysiol Suppl*, 40, 125-131.
- Näätänen, R., Paavilainen, P., Alho, K., Reinikainen, K., Sams, M. (1989). Do event-related potentials reveal the mechanism of the auditory sensory memory in the human brain? *Neurosci Lett*, 98, 217-221.
- Näätänen, R., Paavilainen, P., Reinikainen, K. (1989a). Do event-related potentials to infrequent decrements in duration of auditory stimuli demonstrate a memory trace in man? *Neurosci Lett*, 107, 347-352.
- Näätänen, R., Paavilainen, P., Tiitinen, H., Jiang, D., Alho, K. (1993). Attention and mismatch negativity. *Psychophysiology*, 30, 436-450.
- Näätänen, R., Schroger, E., Karakas, S., Tervaniemi, M., Paavilainen, P. (1993a). Development of a memory trace for a complex sound in the human brain. *Neuroreport*, 4, 503-506.
- Näätänen, R., Simpson, M., Loveless, N.E. (1982). Stimulus deviance and evoked potentials. *Biol Psychol*, 14, 53-98.
- Näätänen, R., Tiitinen, H. (1998). Auditory information processing as indexed by the mismatch negativity. In Sabourin, M., Craik, F.M.J., Robert, M., *Advances in psychological science: biological and cognitive aspects*. Hove, Psychology press, 145-170.
- Näätänen, R., Winkler, I. (1999). The concept of auditory stimulus representation in cognitive neuroscience. *Psychol Bull*, 125, 826-859.
- Neville, H.J., Coffey, S.A., Holcomb, P.J., Tallal, P. (1993). The neurobiology of sensory and language processing in language-impaired children. *J Cogn Neurosci*, 5, 235-253.
- Nickisch, A., Gross, M. (1987). Diagnostik bei Sprachentwicklungsstörungen. *HNO*, 35, 445-450.
- Niedermeyer, E., Silva da F.L. (1999). *Electroencephalography, Basic principles, clinical applications, and related fields*. 4. Edition, Baltimore Md. [u.a.], Williams and Wilkins.
- Nielsen-Bohlman, L., Knight, R.T., Woods, D.L., Woodward, K. (1991). Differential auditory processing continues during sleep. *Electroencephalogr Clin Neurophysiol*, Oct 79 (4), 281-90.
- Niessen, K.H., Bachert, C. (1999). *Pädiatrie. 5. überarb. und erw. Auflage*, Stuttgart, New York, Thieme.
- Nittono, H., Momose, D., Hori, T. (2001). The vanishing point of the MMN at sleep onset. *Clinical Neurophysiology*, 112, 732-739.
- Nottebohm, F., Arnold, A. (1974). Sexual dimension of vocal control areas of the songbird brain. *Science*, 14, 211-213.
- Novak, G.P., Kurtzberg, D., Kreuzer, J.A., Vaughan H.G.J. (1989). Cortical responses to speech sounds and their formants in normal infants: Maturation sequence and spatiotemporal analysis. *Electroenceph Clin Neurophysiol*, 73, 295-305.
- Nubel, K., (2002). Objektivierung auditorischer Diskriminationsleistungen während des Spracherwerbs. In M. Gross (Ed.), *Aktuelle Phoniatrie- und pädaudiologische Aspekte, Supplementum zu Band 9*, Heidelberg, Median.
- Ohlrich, E.S., Barnet, A.B., Weiss, I.P. and Shanks, B.L. (1978). Auditory evoked potential development in early childhood: a longitudinal study. *Electroencephalogr Clin Neurophysiol*, 44, 411-423.

- Paavilainen, P., Cammann, R., Alho, K., Reinikainen, K., Sams, M., Näätänen, R. (1987). Event-related potentials to pitch change in an auditory stimulus sequence during sleep. In Johnson, R. Rohrbaugh, J.W., Parasuraman, R. (Eds:). *Current trends in ERP research (EEG supplement 40)*, Amsterdam, Elsevier, 146-255.
- Paavilainen, P., Jiang, D., Lavikainen, J., Näätänen, R. (1993). Stimulus duration and the sensory memory trace: an event-related potential study. *Biol Psychol*, 35, 139-52.
- Paavilainen, P., Karlsson, M.L., Reinikainen, K., Näätänen, R. (1989). Mismatch negativity to change in spatial location of an auditory stimulus. *Electroencephalogr Clin Neurophysiol*, 73, 129-141.
- Pang, E.W., Edmonds, G.E., Desjardins, R., Khan, S.C., Trainor, L.J., Taylor, M.J. (1998). Mismatch negativity to speech stimuli in 8-month-old infants and adults. *Int J Psychophysiol*, 29, 227-236.
- Pascher, W., Arndt, H.J. (1998). Differentialdiagnose von Sprach-, Stimm- und Hörstörungen, Kapitel 9.1 Sprachentwicklungsverzögerung: Allgemeine Differentialdiagnose der Syndrome und klinische Kategorien. 2. Auflage, Frankfurt/Main, Wötzel.
- Pekkonen, E., Rinne, T., Näätänen, R. (1995). Variability and replicability of the mismatch negativity. *Electroencephalogr Clin Neurophysiol*, 96, 546-554.
- Pikho, E., Leppänen, P., Eklund, K.M., Cheour, M., Guttorm, K.T., Lyytinen, H. (1999). Cortical responses of infants with and without a genetic risk for dyslexia: I. Age effects. *NeuroReport*, 10, 901-905.
- Plante, E. (1991). MRI findings in the parents and siblings of specifically language-impaired boys. *Brain and Language*, 41, 67-80.
- Plante, E., Swisher, L., Vance, R., Rapcsak, S. (1991). MRI findings in boys with specific language impairment. *Brain and Language*, 41, 52-66.
- Ponton, C.W., Don, M., Eggermont, J.J., Waring, M.D., Masuda, A. (1996). Maturation of human cortical auditory function: differences between normal-hearing children and children with cochlear implants. *Ear Hear*, 17, 430-437.
- Ponton, C.W., Eggermont, J.J., Kwong, B., Don, M. (2000). Maturation of human central auditory system activity: evidence from multi-channel evoked potentials. *Clin Neurophysiol*, 111, 220-236.
- Prechtl, H.F., Beintema, (1976). Die neurologische Untersuchung des reifen Neugeborenen. 2. Auflage, Thieme.
- Pröschel, U., Eysholt, U. (1995). Untersuchungen zur Spezifität und Sensitivität transientser click-evozierter otoakustischer Emissionen (TEOAE). *Laryngol Rhinol Otol*, 74 (8), 481-488.
- Pschyrembel (1998). Klinisches Wörterbuch. 258. Auflage, Berlin, New York, de Gruyter.
- Regan, D. (1989). Human brain electrophysiology. New York, Elsevier.
- Rinne, T., Alho, K., Ilmoniemi, R.J., Virtanen, J., Näätänen, R. (2000). Separate time behaviors of the temporal and frontal mismatch sources. *Neuroimage*, July 12 (1), 14-9.
- Sabri, M., Campell, K.B. (2002). The effects of digital filtering on mismatch negativity in wakefulness and slow-wave-sleep. *J Sleep Res*, Jun, 11 (2), 123-7.
- Sallinen, M., Kaartinen, J., Lyytinen, H. (1994). Is the appearance of MMN during stage 2 sleep related to the elicitation of K-Komplex? EEG and Clinical Neurophysiology, 91, 140-148.
- Sallinen, M., Lyytinen, H. (1997). Mismatch negativity during objective and subjective sleepiness. *Psychophysiology*, 34(6), 694-702.

- Sams, M., Kaukoranta, E., Hamalainen, M., Näätänen, R. (1991). Cortical activity elicited by changes in auditory stimuli: different sources for the magnetic N100m and mismatch responses. *Psychophysiology*, 28, 21-29.
- Sams, M., Paavilainen, P., Alho, K., Näätänen, R. (1985). Auditory frequency discrimination and event-related potentials. *Electroencephalogr Clin Neurophysiol*, 62, 437-448.
- Schöler, H., Fromm, W., Kany, W. (1998). Spezifische Sprachentwicklungsstörungen und Sprachlernen. Erscheinungsformen, Verlauf, Folgerungen für Diagnostik und Therapie. *Heidelberg, Winter-Universitätsverlag*.
- Schröger, E. (1994). Automatic detection of frequency change is invariant over a large intensity range. *Neuroreport*, 5, 825-828.
- Schröger, E., Näätänen, R., Paavilainen, P. (1992). Event-related potentials reveal how non-attended complex sound patterns are represented by the human brain. *Neurosci Lett*, 146, 183-186.
- Schulte-Korne, G., Deimel, W., Bartling, J., Remschmidt, H. (1998). Auditory processing and dyslexia: evidence for a specific speech processing deficit. *NeuroReport*, 9, 337-340.
- Sharma, A., Kraus, N., McGee, T.J. and Nicol, T.G. (1997). Developmental changes in P1 and N1 central auditory responses elicited by consonant-vowel syllables. *Electroencephalogr Clin Neurophysiol*, 104, 540-545.
- Silva, P.A. (1980). The prevalence stability and significance of developmental language delay in preschool children. *Dev Med Child Neurol*, 22, 768-777.
- Stapells, D.R., Kurtzberg, D. (1991). Evoked potential assessment of auditory system integrity in infants. *Clin Perinatol*, 18, 497-518.
- Steinschneider, M., Tenke, C.E., Schroeder, C.E., Javitt, D.C., Simpson, G.V., Arezzo, J.C., Vaughan, H.G.J. (1992). Cellular generators of the cortical auditory evoked potential initial component. *Electroencephalogr Clin Neurophysiol*, 84, 196-200.
- Stromswold, K. (1998). Genetic of spoken language disorders. *Human Biology*, 70, 297-324.
- Tallal, P. (1980). Auditory temporal perception, phonics, and reading disabilities in children. *Brain Lang*, 9, 182-198.
- Tallal, P., Ross, R., Curtiss, S. (1989). Familial aggregation of specific language impairment. *J Speech and Hearing Disorders*, 54, 167-173.
- Tanaka, M., Okubo, O., Fuchigami, T., Harada, K. (2001). A study of MMN in infants. *Pediatrics International*, 43, 281-286.
- Tapanainen, J., Huhtaniemi, I., Koivisto, M., Kujansuu, E., Tuimala, R., Vihko, R. (1984). Hormonal changes during the perinatal period: FSH, prolactin and some steroid hormones in the cord blood and peripheral serum of preterm and fullterm female infants. *J Steroid Biochem, May 20 (5)*, 1153-6.
- Thomas, D.G., Crow, C.D. (1994). Development of evoked electrical brain activity in infancy. In Dawson, G., Fischer, K.W. (eds), *Hum Behav Dev Brain. New York, Guilford Press*, 207-231.
- Tiitinen, H., May, P., Reinikainen, K., Näätänen, R. (1994). Attentive novelty detection in humans is governed by pre-attentive sensory memory. *Nature*, 372, 90-92.
- Tomblin, J.B. (1989). Familial concentrations of developmental language impairment. *J Speech and Hearing Disorders*, 54, 287-295.

- Tomblin, J.B., Records, N.L., Buckwalter, P., Zhang, X., Smith, E., O'Brien, M. (1997). Prevalence of specific language impairment in kindergarten children. *J Speech Lang Hear Res*, 40 Dec (6), 1245-60.
- Tomblin, T.B., Buckwalter, P.R. (1998). Heritability of poor language achievement among twins. *J Speech Lang Hear Res*, Feb, 41 (1), 188-99.
- Tonnquist-Uhlen, I. (1996). Topography of auditory evoked cortical potentials in children with severe language impairment. *Scand Audiol Suppl*, 44, 1-40.
- Trejo, L.J., Ryan-Jones, D.L., Kramer, A.F. (1995). Attentional modulation of the mismatch negativity elicited by frequency differences between binaurally presented tone bursts. *Psychophysiology*, 32, 319-328.
- Trune, D.R., Mitchell, C. and Phillips, D.S. (1988). The relative importance of head size, gender and age on the auditory brainstem response. *Hear Res*, 32, 165-174.
- Turnball, J.P., Loparo, K.A., Johnson, M.W., Scher, M.S. (2001). Automated detection of tracé alternant during sleep in healthy full-term neonates using discrete wavelet transform. *Clin Neurophysiol*, 112, 1893-1900.
- Twene Medical Systems BV (1998). Manual for the 33-channel physiological measurement system PORTI-32/MREFA, Version 1.0, Enschede.
- Tzourio, N., Heim, A., Zilbovicius, M., Gerard, C., Mazoyer, B.M. (1994). Abnormal regional CBF response in left hemisphere of dysphasic children during a language task. *Pediatric Neurology*, 10, 20-26.
- Uwer, R., von Suchodoletz, W. (2000). Stability of Mismatch negativities children. *Clin Neurophysiol*, Jan 111 (1), 45-52.
- van der Lely, H.K., Stollwerck, L. (1996). A grammatical specific language impairment in children: an autosomal dominant inheritance? *Brain Lang*, 52 (3), 484-504.
- Van Sweden, B., Dijk, J.G., Caekebeke, J.F. (1994). Auditory information processing in sleep: late cortical potentials in an oddball paradigm. *Neuropsychobiology*, 29 (3), 152-6.
- Vaughan, H.G., Kurtzberg, D. (1992). Electrophysiological indices of human brain maturation and cognitive development. In M.R.N.C. Gunnar (Ed.), *Minnesota symposia on child psychology*, Vol. 24, Lawrence Erlbaum Associates, Hillsdale, 1-36.
- Velasco, M., Velasco, F. and Velasco, A.L. (1989). Intracranial studies on potential generators of some vertex auditory evoked potentials in man. *Stereotact Funct Neurosurg*, 53, 49-73.
- Weitzmann, E.D., Graziani, L.J. (1968). Maturation and topography of the auditory evoked response of the prematurely born infant. *Dev Psychobiol*, 1, 79-89.
- Winkler, I., Kujala, T., Tiitinen, H., Sivonen, P., Alku, P., Lehtokoski, A., Czigler, I., Csepe, V., Ilmoniemi, R.J., Näätänen, R. (1999). Brain responses reveal the learning of foreign language phonemes. *Psychophysiology*, 36, 638-642.
- Woldorff M, Hackley S, Hillyard S. (1991). The effects of channel-selective attention on the mismatch negativity wave elicited by deviant tones (see comments). *Psychophysiology*, 28, 30-42.
- Yabe, H., Tervaniemi, M., Reinikainen, K., Näätänen, R. (1997). Temporal window of integration revealed by MMN to sound omission. *NeuroReport*, 8, 1971-1974.