

Literaturverzeichnis

- Abi-Dargham, A., Laruelle, M., Aghajanian, G. K., Charney, D., Krystal, J. 1997. The role of serotonin in the pathophysiology and treatment of schizophrenia. *J Neuropsychiatry Clin Neurosci* **9**: 1-17.
- Andersen, P. H. and Braestrup, C. 1986. Evidence for different states of the dopamine D1 receptor: clozapine and fluperlapine may preferentially label an adenylate cyclase-coupled state of the D1 receptor. *J. Neurochem.* **47**: 1822-1831.
- Andreasen, N. C. 1999. Understanding the causes of schizophrenia [editorial; comment]. *N Engl J Med* **340**: 645-647.
- Andreasen, N. C. 2000. Schizophrenia: the fundamental questions. *Brain Res Brain Res Rev* **31**: 106-112.
- Anokhin, A. P., Todorov, A. A., Madden, P. A., Grant, J. D., Heath, A. C. 1999. Brain event-related potentials, dopamine D2 receptor gene polymorphism, and smoking. *Genet Epidemiol* **17 Suppl 1**: S37-S42.
- Barnes, N. M., Costall, B., Ge, J., Kelly, M. E., Naylor, R. J. 1992. The interaction of R(+) - and S(-)-zacopride with PCPA to modify rodent aversive behaviour. *Eur J Pharmacol* **218**: 15-25.
- Basar-Eroglu, C., Struber, D., Schurmann, M., Stadler, M., Basar, E. 1996. Gamma-band responses in the brain: a short review of psychophysiological correlates and functional significance. *Int J Psychophysiol* **24**: 101-112.
- Baudena, P., Halgren, E., Heit, G., Clarke, J. M. 1995. Intracerebral potentials to rare target and distractor auditory and visual stimuli. III. Frontal cortex. *Electroencephalogr Clin Neurophysiol* **94**: 251-264.
- Baumann, B., Bielau, H., Krell, D., Agelink, M. W., Diekmann, S., Wurthmann, C., Trubner, K., Bernstein, H. G., Danos, P., Bogerts, B. 2002. Circumscribed numerical deficit of dorsal raphe neurons in mood disorders. *Psychol. Med.* **32**: 93-103.
- Baumann, B. and Bogerts, B. 2001. Neuroanatomical studies on bipolar disorder. *Br. J. Psychiatry* **178**: S142-S147.
- Baumgarten, H. G. and Grozdanovic, Z. 1998. Role of serotonin in obsessive-compulsive disorder. *Br J Psychiatry Suppl*: 13-20.
- Benes, F. M. 1995a. Altered glutamatergic and GABAergic mechanisms in the cingulate cortex of the schizophrenic brain. *Arch Gen Psychiatry* **52**: 1015-1018.
- Benes, F. M. 1995b. Development of the glutamate, GABA, and dopamine systems in relation to NRH-induced neurotoxicity [editorial; comment]. *Biol Psychiatry* **38**: 783-787.
- Benes, F. M., Vincent, S. L., Alsterberg, G., Bird, E. D., SanGiovanni, J. P. 1992. Increased GABA receptor binding in superficial layers of cingulate cortex in schizophrenics. *J Neurosci* **12**: 924-929.
- Benes, F. M., Wickramasinghe, R., Vincent, S. L., Khan, Y., Todtenkopf, M. 1997. Uncoupling of GABA(A) and benzodiazepine receptor binding activity in the hippocampal formation of schizophrenic brain. *Brain Res* **755**: 121-129.

- Bertolino, A., Breier, A., Callicott, J. H., Adler, C., Mattay, V. S., Shapiro, M., Frank, J. A., Pickar, D., Weinberger, D. R. 2000. The relationship between dorsolateral prefrontal neuronal N-acetylaspartate and evoked release of striatal dopamine in schizophrenia. *Neuropsychopharmacology* **22**: 125-132.
- Biver, F., Wikler, D., Lotstra, F., Damhaut, P., Goldman, S., Mendlewicz, J. 1997. Serotonin 5-HT2 receptor imaging in major depression: focal changes in orbito-insular cortex. *Br J Psychiatry* **171**: 444-448.
- Blackwood, D. H., St Clair, D. M., Muir, W. J., Duffy, J. C. 1991. Auditory P300 and eye tracking dysfunction in schizophrenic pedigrees. *Arch Gen Psychiatry* **48**: 899-909.
- Blum, K., Braverman, E. R., Dinardo, M. J., Wood, R. C., Sheridan, P. J. 1994. Prolonged P300 latency in a neuropsychiatric population with the D2 dopamine receptor A1 allele. *Pharmacogenetics* **4**: 313-322.
- Bressler, S. L., Coppola, R., Nakamura, R. 1993. Episodic multiregional cortical coherence at multiple frequencies during visual task performance. *Nature* **366**: 153-156.
- Briley, M., Chopin, P., Moret, C. 1990. Effect of serotonergic lesion on "anxious" behaviour measured in the elevated plus-maze test in the rat. *Psychopharmacology (Berl)* **101**: 187-189.
- Bruneau, N., Barthelemy, C., Jouve, J., Lelord, G. 1986. Frontal auditory-evoked potential augmenting-reducing and urinary homovanillic acid. *Neuropsychobiology* **16**: 78-84.
- Bruneau, N., Roux, S., Guerin, P., Garreau, B., Lelord, G. 1993. Auditory stimulus intensity responses and frontal midline theta rhythm. *Electroencephalogr Clin Neurophysiol* **86**: 213-216.
- Buchsbaum, M. 1976. Self-regulation of stimulus intensity: augmenting reducing and the average evoked response. In *Consciousness and self-regulation* (G. E. Schwartz and D. Shapiro, Eds.) pp. 101-135. Plenum Press, New York
- Buchsbaum, M. and Pfefferbaum, A. 1971. Individual differences in stimulus intensity response. *Psychophysiology* **8**: 600-611.
- Buchsbaum, M. and Silverman, J. 1968. Stimulus intensity control and the cortical evoked response. *Psychosom. Med.* **30**: 12-22.
- Buchsbaum, M. S., Awsare, S. V., Holcomb, H. H., DeLisi, L. E., Hazlett, E., Carpenter, W. T., Pickar, D., Morihisa, J. M. 1986. Topographic differences between normals and schizophrenics: the N120 evoked potential component. *Neuropsychobiology* **15**: 1-6.
- Buchsbaum, M. S., Post, R. M., Bunney, W. E. J. 1977. Average evoked responses in a rapidly cycling manic-depressive patient. *Biol Psychiatry* **12**: 83-99.
- Bymaster, F., Perry, K. W., Nelson, D. L., Wong, D. T., Rasmussen, K., Moore, N. A., Calligaro, D. O. 1999. Olanzapine: a basic science update. *Br. J. Psychiatry Suppl*: 36-40.
- Campbell, M. J., Lewis, D. A., Foote, S. L., Morrison, J. H. 1987. Distribution of choline acetyltransferase-, serotonin-, dopamine-beta-hydroxylase-, tyrosine hydroxylase-immunoreactive fibers in monkey primary auditory cortex. *J Comp Neurol* **261**: 209-220.
- Carlsson, A., Hansson, L. O., Waters, N., Carlsson, M. L. 1999. A glutamatergic deficiency model of schizophrenia. *Br J Psychiatry Suppl*: 2-6.
- Castner, S. A., Williams, G. V., Goldman-Rakic, P. S. 2000. Reversal of antipsychotic-induced working memory deficits by short-term dopamine D1 receptor stimulation. *Science* **287**: 2020-2022.

- Charney, D. S. and Deutch, A. 1996. A functional neuroanatomy of anxiety and fear: implications for the pathophysiology and treatment of anxiety disorders. *Crit Rev Neurobiol* **10**: 419-446.
- Condray, R. and Steinhauer, S. R. 1992. Schizotypal personality disorder in individuals with and without schizophrenic relatives: similarities and contrasts in neurocognitive and clinical functioning. *Schizophr Res* **7**: 33-41.
- Connor, K. M. and Davidson, J. R. 1998. Generalized anxiety disorder: neurobiological and pharmacotherapeutic perspectives. *Biol Psychiatry* **44**: 1286-1294.
- Cowan, W. M., Kopnisky, K. L., Hyman, S. E. 2002. The human genome project and its impact on psychiatry. *Annu Rev Neurosci* **25**: 1-50.
- Delgado, P. L. 2000. Depression: the case for a monoamine deficiency. *J. Clin. Psychiatry* **61 Suppl 6**: 7-11.
- Donchin, E. 1981. Surprise!...Surprise? *Psychophysiology* **18**: 493-513.
- Eastwood, S. L., Burnet, P. W., Gittins, R., Baker, K., Harrison, P. J. 2001. Expression of serotonin 5-HT(2A) receptors in the human cerebellum and alterations in schizophrenia. *Synapse* **42**: 104-114.
- Ebmeier, K. P., Potter, D. D., Cochrane, R. H., Mackenzie, A. R., MacAllister, H., Besson, J. A., Salzen, E. A. 1990. P300 and smooth eye pursuit: concordance of abnormalities and relation to clinical features in DSM-III schizophrenia. *Acta Psychiatr Scand* **82**: 283-288.
- Egan, M. F., Goldberg, T. E., Kolachana, B. S., Callicott, J. H., Mazzanti, C. M., Straub, R. E., Goldman, D., Weinberger, D. R. 2001. Effect of COMT Val108/158 Met genotype on frontal lobe function and risk for schizophrenia. *Proc Natl Acad Sci U S A* **98**: 6917-6922.
- Egan, M. F., Kojima, M., Callicott, J. H., Goldberg, T. E., Kolachana, B. S., Bertolino, A., Zaitsev, E., Gold, B., Goldman, D., Dean, M., Lu, B., Weinberger, D. R. 2003. The BDNF val66met polymorphism affects activity-dependent secretion of BDNF and human memory and hippocampal function. *Cell* **112**: 257-269.
- Ehlers, C. L., Kaneko, W. M., Wall, T. L., Chaplin, R. I. 1992. Effects of dizocilpine (MK-801) and ethanol on the EEG and event-related potentials (ERPS) in rats. *Neuropharmacology* **31**: 369-378.
- el Mansari, M., Bouchard, C., Blier, P. 1995. Alteration of serotonin release in the guinea pig orbito-frontal cortex by selective serotonin reuptake inhibitors. Relevance to treatment of obsessive-compulsive disorder. *Neuropsychopharmacology* **13**: 117-127.
- Fender, D. H. 1987. Source localization of brain electrical activity. In *Methods of analysis of brain electrical and magnetic signals: EEG handbook* (A. S. Gevins and A. Remond, Eds.) pp. 355-403. Elsevier, New York.
- Ferre, S. and Artigas, F. 1993. Dopamine D2 receptor-mediated regulation of serotonin extracellular concentration in the dorsal raphe nucleus of freely moving rats. *J. Neurochem.* **61**: 772-775.
- Fineberg, N. A., Roberts, A., Montgomery, S. A., Cowen, P. J. 1997. Brain 5-HT function in obsessive-compulsive disorder. Prolactin responses to d-fenfluramine. *Br. J. Psychiatry* **171**: 280-282.
- Fleck, K. M. and Polich, J. 1988. P300 and the menstrual cycle. *Electroencephalogr Clin Neurophysiol* **71**: 157-160.

- Flory, J. D., Manuck, S. B., Ferrell, R. E., Dent, K. M., Peters, D. G., Muldoon, M. F. 1999. Neuroticism is not associated with the serotonin transporter (5-HTTLPR) polymorphism. *Mol Psychiatry* **4**: 93-96.
- Foote, S. L. and Morrison, J. H. 1987. Extrathalamic modulation of cortical function. *Annu Rev Neurosci* **10**: 67-95.
- Ford, J. M., Mathalon, D. H., Whitfield, S., Faustman, W. O., Roth, W. T. 2002. Reduced communication between frontal and temporal lobes during talking in schizophrenia. *Biol Psychiatry* **51**: 485-492.
- Ford, J. M., White, P. M., Csernansky, J. G., Faustman, W. O., Roth, W. T., Pfefferbaum, A. 1994. ERPs in schizophrenia: effects of antipsychotic medication. *Biol Psychiatry* **36**: 153-170.
- Frodl-Bauch, T., Bottlender, R., Hegerl, U. 1999a. Neurochemical Substrates and Neuroanatomical Generators of the Event- Related P300. *Neuropsychobiology* **40**: 86-94.
- Frodl-Bauch, T., Gallinat, J., Meisenzahl, E. M., Moller, H. J., Hegerl, U. 1999b. P300 subcomponents reflect different aspects of psychopathology in schizophrenia. *Biol Psychiatry* **45**: 116-126.
- Gallinat, J. 1996. *Intensitätsabhängigkeit akustisch evozierter Dipolquellen und Persönlichkeit*, Inaugural-Dissertation, Freie Universität Berlin
- Gallinat, J., Bajbouj, M., Sander, T., Schlattmann, P., Xu, K., Ferro, E. F., Goldman, D., Winterer, G. 2003a. Association of the G1947A COMT (Val108/158)Met gene polymorphism with prefrontal P300 during information processing. *Biol Psychiatry* **54**: 40-48.
- Gallinat, J., Bottlender, R., Juckel, G., Munke-Puchner, A., Stotz, G., Kuss, H. J., Mavrogiorgou, P., Hegerl, U. 2000. The loudness dependency of the auditory evoked N1/P2-component as a predictor of the acute SSRI response in depression. *Psychopharmacology (Berl)* **148**: 404-411.
- Gallinat, J. and Hegerl, U. 1994. Dipole source analysis. Linking scalp potentials to their generating neuronal structures. *Pharmacopsychiatry* **27**: 52-53.
- Gallinat, J. and Hegerl, U. 1998. Elektroenzephalographie. In *Neurophysiologische Untersuchungsmethoden in der Psychiatrie* (U. Hegerl, Eds.) pp. 15-109. Springer, Wien
- Gallinat, J., Mulert, C., Bajbouj, M., Herrmann, W. M., Schunter, J., Senkowski, D., Moukhtieva, R., Kronfeldt, D., Winterer, G. 2002. Frontal and temporal dysfunction of auditory stimulus processing in schizophrenia. *Neuroimage* **17**: 110-127.
- Gallinat, J., Riedel, M., Juckel, G., Sokullu, S., Frodl, T., Moukhtieva, R., Mavrogiorgou, P., Nissle, S., Muller, N., Danker-Hopfe, H., Hegerl, U. 2001. P300 and symptom improvement in schizophrenia. *Psychopharmacology (Berl)* **158**: 55-65.
- Gallinat, J., Senkowski, D., Wernicke, C., Juckel, G., Becker, I., Sander, T., Smolka, M., Hegerl, U., Rommelspacher, H., Winterer, G., Herrmann, W. M. 2003b. Allelic Variants of the Functional Promoter Polymorphism of the Human Serotonin Transporter Gene is Associated with Auditory Cortical Stimulus Processing. *Neuropsychopharmacology* **28**: 530-532.
- Gallinat, J., Ströhle, A., Bajbouj, M., Kalus, P., Montag, C., Seifert, F., Wernicke, C., Rommelspacher, H., Rinneberg, H., Schubert, F. 2005. Association of human hippocampal neurochemistry, serotonin transporter genetic variation, and anxiety. *Neuroimage (in press)*.
- Gallinat, J., Winterer, G., Herrmann, C. S., Senkowski, D. 2004. Reduced oscillatory gamma-band responses in unmedicated schizophrenic patients indicate impaired frontal network processing. *Clin Neurophysiol* **115**: 1863-1874.

- Gaspar, P., Berger, B., Febvret, A., Vigny, A., Henry, J. P. 1989. Catecholamine innervation of the human cerebral cortex as revealed by comparative immunohistochemistry of tyrosine hydroxylase and dopamine-beta-hydroxylase. *J Comp Neurol* **279**: 249-271.
- Germine, M., Goddard, A. W., Woods, S. W., Charney, D. S., Heninger, G. R. 1992. Anger and anxiety responses to m-chlorophenylpiperazine in generalized anxiety disorder. *Biol Psychiatry* **32**: 457-461.
- Gershon, E. S. and Buchsbaum, M. S. 1977. A genetic study of average evoked response augmentation/reduction in affective disorders. In *Psychopathology and brain dysfunction* (C. Shagass, E. S. Gershon, and A. J. Friedhoff, Eds.) pp. 279-290. Raven Press, New York
- Giros, B., Jaber, M., Jones, S. R., Wightman, R. M., Caron, M. G. 1996. Hyperlocomotion and indifference to cocaine and amphetamine in mice lacking the dopamine transporter. *Nature* **379**: 606-612.
- Gogos, J. A., Morgan, M., Luine, V., Santha, M., Ogawa, S., Pfaff, D., Karayiorgou, M. 1998. Catechol-O-methyltransferase-deficient mice exhibit sexually dimorphic changes in catecholamine levels and behavior. *Proc Natl Acad Sci U S A* **95**: 9991-9996.
- Goldman-Rakic, P. S. 1996. Regional and cellular fractionation of working memory. *Proc Natl Acad Sci U S A* **93**: 13473-13480.
- Gottesman, I. I. and Gould, T. D. 2003. The endophenotype concept in psychiatry: etymology and strategic intentions. *Am. J Psychiatry* **160**: 636-645.
- Gottesman, I. I. and Shields, J. 1973. Genetic theorizing and schizophrenia. *Br. J Psychiatry* **122**: 15-30.
- Gray, C. M. and McCormick, D. A. 1996. Chattering cells: superficial pyramidal neurons contributing to the generation of synchronous oscillations in the visual cortex. *Science* **274**: 109-113.
- Greenberg, B. D., Li, Q., Lucas, F. R., Hu, S., Sirota, L. A., Benjamin, J., Lesch, K. P., Hamer, D., Murphy, D. L. 2000. Association between the serotonin transporter promoter polymorphism and personality traits in a primarily female population sample [In Process Citation]. *Am J Med Genet* **96**: 202-216.
- Greenberg, B. D., Tolliver, T. J., Huang, S. J., Li, Q., Bengel, D., Murphy, D. L. 1999. Genetic variation in the serotonin transporter promoter region affects serotonin uptake in human blood platelets. *Am J Med Genet* **88**: 83-87.
- Grunder, G., Vernaleken, I., Benkert, O. 2001. [Which properties make a neuroleptic "atypical"?]. *Nervenarzt* **72**: 833-843.
- Halgren, E., Baudena, P., Clarke, J. M., Heit, G., Liegeois, C., Chauvel, P., Musolino, A. 1995a. Intracerebral potentials to rare target and distractor auditory and visual stimuli. I. Superior temporal plane and parietal lobe. *Electroencephalogr Clin Neurophysiol* **94**: 191-220.
- Halgren, E., Baudena, P., Clarke, J. M., Heit, G., Marinkovic, K., Devaux, B., Vignal, J. P., Biraben, A. 1995b. Intracerebral potentials to rare target and distractor auditory and visual stimuli. II. Medial, lateral and posterior temporal lobe. *Electroencephalogr Clin Neurophysiol* **94**: 229-250.
- Halgren, E., Marinkovic, K., Chauvel, P. 1998. Generators of the late cognitive potentials in auditory and visual oddball tasks. *Electroencephalogr Clin Neurophysiol* **106**: 156-164.

- Halgren, E., Stapleton, J. M., Smith, M., and Altafullah, I. 1986. Generators of the human scalp P3(s). In *Evoked Potentials* (Q. Cracco and I. Bodis-Wollner, Eds.) pp. 269-284. Alan Liss, New York
- Halgren, E., Wilson, C. L., Squires, N. K., Engel, J., Walter, R. D., and Crandall, P. H. 1983. Dynamics of the human hippocampal contribution to memory. In *Neurobiology of the hippocampus* (W. Seifert, Eds.) pp. 529-572. Academic Press, London
- Hamilton, M. 1959. The assessment of anxiety states by rating. *Br J Med Psychology* **32**: 50-55.
- Hamilton, M. 1967. Development of a rating scale for primary depressive illness. *Br. J Soc. Clin Psychol.* **6**: 278-296.
- Hansenne, M. and Ansseau, M. 1999. P300 event-related potential and serotonin-1A activity in depression. *Eur Psychiatry* **14**: 143-147.
- Hariri, A. R., Mattay, V. S., Tessitore, A., Kolachana, B., Fera, F., Goldman, D., Egan, M. F., Weinberger, D. R. 2002. Serotonin transporter genetic variation and the response of the human amygdala. *Science* **297**: 400-403.
- Harrison, P. J. 1999. Neurochemical alterations in schizophrenia affecting the putative receptor targets of atypical antipsychotics. Focus on dopamine (D₁, D₃, D₄) and 5-HT_{2a} receptors. *Br. J Psychiatry Suppl*: 12-22.
- Hegerl, U., Bottlender, R., Gallinat, J., Kuss, H. J., Ackenheil, M., Moller, H. J. 1998. The serotonin syndrome scale: first results on validity. *Eur Arch Psychiatry Clin Neurosci* **248**: 96-103.
- Hegerl, U., Gallinat, J., Mrowinski, D. 1994. Intensity dependence of auditory evoked dipole source activity. *Int J Psychophysiol* **17**: 1-13.
- Hegerl, U. and Juckel, G. 1993. Intensity dependence of auditory evoked potentials as an indicator of central serotonergic neurotransmission: a new hypothesis. *Biol. Psychiatry* **33**: 173-187.
- Hegerl, U., Juckel, G., Muller-Schubert, A., Pietzcker, A., Gaebel, W. 1995. Schizophrenics with small P300: a subgroup with a neurodevelopmental disturbance and a high risk for tardive dyskinesia? *Acta Psychiatr Scand* **91**: 120-125.
- Heinz, A., Jones, D. W., Mazzanti, C., Goldman, D., Ragan, P., Hommer, D., Linnoila, M., Weinberger, D. R. 2000. A relationship between serotonin transporter genotype and in vivo protein expression and alcohol neurotoxicity. *Biol Psychiatry* **47**: 643-649.
- Hollmann, M. and Heinemann, S. 1994. Cloned glutamate receptors. *Annu Rev Neurosci* **17**: 31-108.
- Hubbard, R. B., Judd, L. L., Huey, L. Y., Kripke, D. F., Janowsky, D. S., Lewis, A. S. 1980. Visual cortical evoked potentials in alcoholics and normals maintained on lithium carbonate: augmentation and reduction phenomena. *Adv Exp Med Biol* **126**: 573-577.
- Humble, M. and Wistedt, B. 1992. Serotonin, panic disorder and agoraphobia: short-term and long-term efficacy of citalopram in panic disorders. *Int. Clin. Psychopharmacol.* **6 Suppl 5**: 21-39.
- Jacobs, B. L. 1990. Locus coeruleus neuronal activity in behaving animals. In *The pharmacology of noradrenaline in the central nervous system* (D. J. Heal and C. A. Marsden, Eds.) pp. 248-265. Oxford University Press, Oxford
- Jacobs, B. L. and Azmitia, E. C. 1992. Structure and function of the brain serotonin system. *Physiol Rev* **72**: 165-229.

- Javitt, D. C., Schroeder, C. E., Steinschneider, M., Arezzo, J. C., Ritter, W., Vaughan, H. G. J. 1995. Cognitive event-related potentials in human and non-human primates: implications for the PCP/NMDA model of schizophrenia. *Electroencephalogr Clin Neurophysiol Suppl* **44**: 161-175.
- Jefferys, J. G., Traub, R. D., Whittington, M. A. 1996. Neuronal networks for induced '40 Hz' rhythms. *Trends Neurosci* **19**: 202-208.
- John, B. and Lewis, K. R. 1966. Chromosome variability and geographical distribution in insects: chromosome rather than gene variation provide the key to differences among populations. *Science* **152**: 711-721.
- Joliot, M., Ribary, U., Llinas, R. 1994. Human oscillatory brain activity near 40 Hz coexists with cognitive temporal binding. *Proc Natl Acad Sci U S A* **91**: 11748-11751.
- Jorm, A. F., Henderson, A. S., Jacomb, P. A., Christensen, H., Korten, A. E., Rodgers, B., Tan, X., Easteal, S. 1998. An association study of a functional polymorphism of the serotonin transporter gene with personality and psychiatric symptoms. *Mol Psychiatry* **3**: 449-451.
- Joyce, J. N., Shane, A., Lexow, N., Winokur, A., Casanova, M. F., Kleinman, J. E. 1993. Serotonin uptake sites and serotonin receptors are altered in the limbic system of schizophrenics [see comments]. *Neuropsychopharmacology* **8**: 315-336.
- Juckel, G., Gallinat, J., Riedel, M., Sokullu, S., Schulz, C., Moller, H. J., Muller, N., Hegerl, U. 2003. Serotonergic dysfunction in schizophrenia assessed by the loudness dependence measure of primary auditory cortex evoked activity. *Schizophr Res* **64**: 115-124.
- Juckel, G., Molnar, M., Hegerl, U., Csepe, V., Karmos, G. 1997. Auditory-evoked potentials as indicator of brain serotonergic activity-- first evidence in behaving cats. *Biol Psychiatry* **41**: 1181-1195.
- Kandel, E. R. and Siegelbaum, S. A. 2000. Synaptic integration. In *Principles of neural science* (E. R. Kandel, J. H. Schwartz, and T. M. Jessel, Eds.) pp. 207-228. McGraw-Hill, New York.
- Kapur, S., Zipursky, R. B., Remington, G. 1999. Clinical and theoretical implications of 5-HT2 and D2 receptor occupancy of clozapine, risperidone, and olanzapine in schizophrenia. *Am. J. Psychiatry* **156**: 286-293.
- Karniski, W. and Blair, R. C. 1989. Topographical and temporal stability of the P300. *Electroencephalogr Clin Neurophysiol* **72**: 373-383.
- Karoum, F., Chrapusta, S. J., Egan, M. F. 1994. 3-Methoxytyramine is the major metabolite of released dopamine in the rat frontal cortex: reassessment of the effects of antipsychotics on the dynamics of dopamine release and metabolism in the frontal cortex, nucleus accumbens, and striatum by a simple two pool model. *J Neurochem* **63**: 972-979.
- Kidogami, Y., Yoneda, H., Asaba, H., Sakai, T. 1991. P300 in first degree relatives of schizophrenics. *Schizophr Res* **6**: 9-13.
- Kornhuber, J. and Fischer, E. G. 1982. Glutamic acid diethyl ester induces catalepsy in rats. A new model for schizophrenia? *Neurosci Lett* **34**: 325-329.
- Kramer, A. F. and Strayer, D. L. 1988. Assessing the development of automatic processing: an application of dual-task and event-related brain potential methodologies. *Biol Psychol* **26**: 231-267.
- Lachman, H. M., Papolos, D. F., Saito, T., Yu, Y. M., Szumlanski, C. L., Weinshilboum, R. M. 1996. Human catechol-O-methyltransferase pharmacogenetics: description of a functional

- polymorphism and its potential application to neuropsychiatric disorders. *Pharmacogenetics* **6**: 243-250.
- Lang, U. E., Bajbouj, M., Wernicke, C., Rommelspacher, H., Danker-Hopfe, H., Gallinat, J. 2004. No association of a functional polymorphism in the serotonin transporter gene promoter and anxiety-related personality traits. *Neuropsychobiology* **49**: 182-184.
- Leonhard, K. 1986. *Aufteilung der endogenen Psychosen und ihrer differenzierte Ätiologie*, Akademie, Berlin
- Lesch, K. P., Bengel, D., Heils, A., Sabol, S. Z., Greenberg, B. D., Petri, S., Benjamin, J., Muller, C. R., Hamer, D. H., Murphy, D. L. 1996. Association of anxiety-related traits with a polymorphism in the serotonin transporter gene regulatory region. *Science* **274**: 1527-1531.
- Lesch, K. P. and Mössner, R. 1998. Genetically driven variation in serotonin uptake: is there a link to affective spectrum, neurodevelopmental, and neurodegenerative disorders? *Biol Psychiatry* **44**: 179-192.
- Lewis, D. A., Campbell, M. J., Foote, S. L., Goldstein, M., Morrison, J. H. 1987. The distribution of tyrosine hydroxylase-immunoreactive fibers in primate neocortex is widespread but regionally specific. *J Neurosci* **7**: 279-290.
- Lewis, D. A., Campbell, M. J., Foote, S. L., Morrison, J. H. 1986. The monoaminergic innervation of primate neocortex. *Hum. Neurobiol.* **5**: 181-188.
- Lin, C. H., Yu, Y. W., Chen, T. J., Tsai, S. J., Hong, C. J. 2001. Association analysis for dopamine D2 receptor Taq1 polymorphism with P300 event-related potential for normal young females. *Psychiatr Genet* **11**: 165-168.
- Little, K. Y., McLaughlin, D. P., Zhang, L., Livermore, C. S., Dalack, G. W., McFinton, P. R., DelProposto, Z. S., Hill, E., Cassin, B. J., Watson, S. J., Cook, E. H. 1998. Cocaine, ethanol, and genotype effects on human midbrain serotonin transporter binding sites and mRNA levels. *Am J Psychiatry* **155**: 207-213.
- Llinas, R. R. 1988. The intrinsic electrophysiological properties of mammalian neurons: insights into central nervous system function. *Science* **242**: 1654-1664.
- Lotta, T., Vidgren, J., Tilgmann, C., Ulmanen, I., Melen, K., Julkunen, I., Taskinen, J. 1995. Kinetics of human soluble and membrane-bound catechol O-methyltransferase: a revised mechanism and description of the thermolabile variant of the enzyme. *Biochemistry* **34**: 4202-4210.
- Lukas, J. H. and Mullins, L. F. 1985. Auditory augmenters are sensation seekers and perform better under high work-loads. *Psychophysiology* **22**: 580-581.
- Lukas, J. H. and Siegel, J. 1977. Cortical mechanisms that augment or reduce evoked potentials in cats. *Science* **198**: 73-75.
- Malison, R. T., Price, L. H., Berman, R., van Dyck, C. H., Pelton, G. H., Carpenter, L., Sanacora, G., Owens, M. J., Nemeroff, C. B., Rajeevan, N., Baldwin, R. M., Seibyl, J. P., Innis, R. B., Charney, D. S. 1998. Reduced brain serotonin transporter availability in major depression as measured by [123I]-2 beta-carbomethoxy-3 beta-(4-iodophenyl)tropamine and single photon emission computed tomography. *Biol. Psychiatry* **44**: 1090-1098.
- Mathalon, D. H., Ford, J. M., Pfefferbaum, A. 2000. Trait and state aspects of P300 amplitude reduction in schizophrenia: a retrospective longitudinal study. *Biol Psychiatry* **47**: 434-449.

- Mazzanti, C. M., Lappalainen, J., Long, J. C., Bengel, D., Naukkarinen, H., Eggert, M., Virkkunen, M., Linnoila, M., Goldman, D. 1998. Role of the serotonin transporter promoter polymorphism in anxiety-related traits. *Arch Gen Psychiatry* **55**: 936-940.
- McCarthy, G., Wood, C. C., Williamson, P. D., Spencer, D. D. 1989. Task-dependent field potentials in human hippocampal formation. *J Neurosci* **9**: 4253-4268.
- Meador, K. J., Loring, D. W., Adams, R. J., Patel, B. R., Davis, H. C., Hammond, E. J. 1987. Central cholinergic systems and the P3 evoked potential. *Int J Neurosci* **33**: 199-205.
- Meador, K. J., Loring, D. W., Davis, H. C., Sethi, K. D., Patel, B. R., Adams, R. J., Hammond, E. J. 1989. Cholinergic and serotonergic effects on the P3 potential and recent memory. *J Clin Exp Neuropsychol* **11**: 252-260.
- Meador, K. J., Loring, D. W., Lee, G. P., Taylor, H. S., Hughes, D. R., Feldman, D. S. 1988. In vivo probe of central cholinergic systems. *J Gerontol* **43**: M158-M162.
- Melke, J., Landen, M., Baghei, F., Rosmond, R., Holm, G., Björntorp, P., Westberg, L., Hellstrand, M., Eriksson, E. 2001. Serotonin transporter gene polymorphisms are associated with anxiety-related personality traits in women. *Am. J Med. Genet* **105**: 458-463.
- Meltzer, H. Y. 1991. The mechanism of action of novel antipsychotic drugs. *Schizophr Bull* **17**: 263-287.
- Metherate, R., Cox, C. L., Ashe, J. H. 1992. Cellular bases of neocortical activation: modulation of neural oscillations by the nucleus basalis and endogenous acetylcholine. *J Neurosci* **12**: 4701-4711.
- Mitzdorf, U. 1985. Current source-density method and application in cat cerebral cortex: investigation of evoked potentials and EEG phenomena. *Physiol Rev* **65**: 37-100.
- Möller, H. J., Gallinat, J., Hegerl, U., Arato, M., Janka, Z., Pflug, B., Bauer, H. 1998. Double-blind, multicenter comparative study of sertraline and amitriptyline in hospitalized patients with major depression. *Pharmacopsychiatry* **31**: 170-177.
- Morrison, J. H., Foote, S. L., Molliver, M. E., Bloom, F. E., Lidov, H. G. 1982. Noradrenergic and serotonergic fibers innervate complementary layers in monkey primary visual cortex: an immunohistochemical study. *Proc Natl Acad Sci U S A* **79**: 2401-2405.
- Mowry, B. J. and Nancarrow, D. J. 2001. Molecular genetics of schizophrenia. *Clin Exp Pharmacol Physiol* **28**: 66-69.
- Murakami, F., Shimomura, T., Kotani, K., Ikawa, S., Nanba, E., Adachi, K. 1999. Anxiety traits associated with a polymorphism in the serotonin transporter gene regulatory region in the Japanese. *J Hum Genet* **44**: 15-17.
- 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.
- Ngan, E. T., Yatham, L. N., Ruth, T. J., Liddle, P. F. 2000. Decreased serotonin 2A receptor densities in neuroleptic-naïve patients with schizophrenia: A PET study using [(18)F]setoperone. *Am. J Psychiatry* **157**: 1016-1018.
- Noble, E. P., Berman, S. M., Ozkaragoz, T. Z., Ritchie, T. 1994. Prolonged P300 latency in children with the D2 dopamine receptor A1 allele. *Am J Hum Genet* **54**: 658-668.
- Nyberg, S., Farde, L., Halldin, C. 1997. A PET study of 5-HT2 and D2 dopamine receptor occupancy induced by olanzapine in healthy subjects. *Neuropsychopharmacology* **16**: 1-7.

- Olney, J. W. and Farber, N. B. 1995. Glutamate receptor dysfunction and schizophrenia [see comments]. *Arch Gen Psychiatry* **52**: 998-1007.
- Oranje, B., van Berckel, B. N., Kemner, C., van Ree, J. M., Kahn, R. S., Verbaten, M. N. 2000. The effects of a sub-anaesthetic dose of ketamine on human selective attention. *Neuropsychopharmacology* **22**: 293-302.
- Owens, M. J. and Nemeroff, C. B. 1994. Role of serotonin in the pathophysiology of depression: focus on the serotonin transporter. *Clin. Chem.* **40**: 288-295.
- Paige, S. R., Fitzpatrick, D. F., Kline, J. P., Balogh, S. E., Hendricks, S. E. 1994. Event-related potential amplitude/intensity slopes predict response to antidepressants. *Neuropsychobiology* **30**: 197-201.
- Pascual-Marqui, R. 1995. Source localization: Continuing discussion of the inverse problem. *ISBET Newsletter (ISSN 0947-5133)* **6**: 9-30.
- Pascual-Marqui, R. D., Michel, C. M., Lehmann, D. 1994. Low resolution electromagnetic tomography: a new method for localizing electrical activity in the brain. *Int J Psychophysiol* **18**: 49-65.
- Pollack, M. H., Zaninelli, R., Goddard, A., McCafferty, J. P., Bellew, K. M., Burnham, D. B., Iyengar, M. K. 2001. Paroxetine in the treatment of generalized anxiety disorder: results of a placebo-controlled, flexible-dosage trial. *J Clin Psychiatry* **62**: 350-357.
- Ressler, K. J. and Nemeroff, C. B. 1999. Role of norepinephrine in the pathophysiology and treatment of mood disorders. *Biol. Psychiatry* **46**: 1219-1233.
- Rosa-Neto, P., Diksic, M., Okazawa, H., Leyton, M., Ghadirian, N., Mzengeza, S., Nakai, A., Debonnel, G., Blier, P., Benkelfat, C. 2004. Measurement of brain regional alpha-[¹¹C]methyl-L-tryptophan trapping as a measure of serotonin synthesis in medication-free patients with major depression. *Arch. Gen. Psychiatry* **61**: 556-563.
- Ruchkin, D. S., Sutton, S., Mahaffey, D. 1987. Functional differences between members of the P300 complex: P3e and P3b. *Psychophysiology* **24**: 87-103.
- Rupp, D., Juckel, G., Mavrogiorgou, P., Goebel, C., Zaudig, M., Hegerl, U. 2001. Serotonergic dysfunction in OCD assessed by auditory evoked potentials. *World Congress Biological Psychiatry*.
- Rush, S. and Driscoll, D. A. 1968. Current distribution in the brain from surface electrodes. *Anesth. Analg.* **47**: 717-723.
- Rush, S. and Driscoll, D. A. 1969. EEG electrode sensitivity--an application of reciprocity. *IEEE Trans. Biomed. Eng* **16**: 15-22.
- Saitoh, O., Niwa, S., Hiramatsu, K., Kameyama, T., Rymar, K., Itoh, K. 1984. Abnormalities in late positive components of event-related potentials may reflect a genetic predisposition to schizophrenia. *Biol Psychiatry* **19**: 293-303.
- Saletu, B., Saletu, M., Itil, T., Marasa, J. 1971. Somatosensory-evoked potential changes during haloperidol treatment of chronic schizophrenics. *Biol Psychiatry* **3**: 299-307.
- Sanacora, G., Mason, G. F., Rothman, D. L., Krystal, J. H. 2002. Increased occipital cortex GABA concentrations in depressed patients after therapy with selective serotonin reuptake inhibitors. *Am. J. Psychiatry* **159**: 663-665.

- Scherg, M. and Picton, T. W. 1991. Separation and identification of event-related potential components by brain electric source analysis. *Electroencephalogr Clin Neurophysiol Suppl* **42**: 24-37.
- Scherg, M. and von Cramon, D. 1985a. A new interpretation of the generators of BAEP waves I-V: results of a spatio-temporal dipole model. *Electroencephalogr Clin Neurophysiol* **62**: 290-299.
- Scherg, M. and von Cramon, D. 1986. Evoked dipole source potentials of the human auditory cortex. *Electroencephalogr Clin Neurophysiol* **65**: 344-360.
- Scherg, M. and von Cramon, D. 1985b. Two bilateral sources of the late AEP as identified by a spatio-temporal dipole model. *Electroencephalogr Clin Neurophysiol* **62**: 32-44.
- Schildkraut, J. J. 1965. The catecholamine hypothesis of affective disorders: a review of supporting evidence. *Am. J. Psychiatry* **122**: 509-522.
- Schreiber, H., Stolz-Born, G., Rothmeier, J., Kornhuber, A., Kornhuber, H. H., Born, J. 1991. Endogenous event-related brain potentials and psychometric performance in children at risk for schizophrenia. *Biol Psychiatry* **30**: 177-189.
- Schubert, F., Gallinat, J., Seifert, F., Rinneberg, H. 2004. Glutamate concentrations in human brain using single voxel proton magnetic resonance spectroscopy at 3 Tesla. *Neuroimage* **21**: 1762-1771.
- Segalowitz, S. J. and Barnes, K. L. 1993. The reliability of ERP components in the auditory oddball paradigm. *Psychophysiology* **30**: 451-459.
- Senkowski, D. and Herrmann, C. S. 2002. Effects of task difficulty on evoked gamma activity and ERPs in a visual discrimination task. *Clin Neurophysiol* **113**: 1742-1753.
- Senkowski, D., Linden, M., Zubragel, D., Bar, T., Gallinat, J. 2003. Evidence for disturbed cortical signal processing and altered serotonergic neurotransmission in generalized anxiety disorder. *Biol Psychiatry* **53**: 304-314.
- Sesack, S. R., Hawrylak, V. A., Matus, C., Guido, M. A., Levey, A. I. 1998. Dopamine axon varicosities in the prelimbic division of the rat prefrontal cortex exhibit sparse immunoreactivity for the dopamine transporter. *J Neurosci* **18**: 2697-2708.
- Singer, W. and Gray, C. M. 1995. Visual feature integration and the temporal correlation hypothesis. *Annu Rev Neurosci* **18**: 555-586.
- Sklar, P. 2002. Linkage analysis in psychiatric disorders: the emerging picture. *Annu Rev Genomics Hum. Genet* **3**: 371-413.
- Southwick, S. M., Paige, S., Morgan, C. A., III, Bremner, J. D., Krystal, J. H., Charney, D. S. 1999. Neurotransmitter alterations in PTSD: catecholamines and serotonin. *Semin. Clin. Neuropsychiatry* **4**: 242-248.
- Stanley, M. and Mann, J. J. 1983. Increased serotonin-2 binding sites in frontal cortex of suicide victims. *Lancet* **1**: 214-216.
- Steel, R. M., Bastin, M. E., McConnell, S., Marshall, I., Cunningham-Owens, D. G., Lawrie, S. M., Johnstone, E. C., Best, J. J. 2001. Diffusion tensor imaging (DTI) and proton magnetic resonance spectroscopy (1H MRS) in schizophrenic subjects and normal controls. *Psychiatry Res* **106**: 161-170.
- Stein, D. J. and Stahl, S. 2000. Serotonin and anxiety: current models. *Int Clin Psychopharmacol* **15 Suppl 2**: S1-S6.

- Strik, W. K., Dierks, T., Franzek, E., Maurer, K., Beckmann, H. 1993. Differences in P300 amplitudes and topography between cycloid psychosis and schizophrenia in Leonhard's classification. *Acta Psychiatr Scand* **87**: 179-183.
- Traub, R. D., Whittington, M. A., Stanford, I. M., Jefferys, J. G. 1996. A mechanism for generation of long-range synchronous fast oscillations in the cortex. *Nature* **383**: 621-624.
- Tsuang, M. T. and Faraone, S. V. 2000. The future of psychiatric genetics. *Curr. Psychiatry Rep.* **2**: 133-136.
- Turetsky, B. I., Cannon, T. D., Gur, R. E. 2000. P300 subcomponent abnormalities in schizophrenia: III. Deficits in unaffected siblings of schizophrenic probands. *Biol Psychiatry* **47**: 380-390.
- van Beijsterveldt, C. E., Molenaar, P. C., de Geus, E. J., Boomsma, D. I. 1998. Individual differences in P300 amplitude: a genetic study in adolescent twins. *Biol Psychol* **47**: 97-120.
- van Veelen, N. M. and Kahn, R. S. 1999. Dopamine, serotonin, and schizophrenia. *Adv. Neurol* **80**: 425-429.
- Vaswani, M., Linda, F. K., Ramesh, S. 2003. Role of selective serotonin reuptake inhibitors in psychiatric disorders: a comprehensive review. *Prog. Neuropsychopharmacol. Biol Psychiatry* **27**: 85-102.
- von Knorring, L., Monakhov, K., Perris, C. 1978. Augmenting/reducing: an adaptive switch mechanism to cope with incoming signals in healthy subjects and psychiatric patients. *Neuropsychobiology* **4**: 150-179.
- von Knorring, L. and Perris, C. 1981. Biochemistry of the augmenting-reducing response in visual evoked potentials. *Neuropsychobiology* **7**: 1-8.
- Wainer, B. H. and Mesulam, M. M. 1990. Ascending cholinergic pathways in the rat brain. In *Brain cholinergic systems* (M. Steriade and D. Biesold, Eds.) pp. 65-119. Oxford University Press, Oxford
- Weinberger, D. R. and Berman, K. F. 1996. Prefrontal function in schizophrenia: confounds and controversies. *Philos. Trans. R. Soc. Lond B Biol. Sci.* **351**: 1495-1503.
- Weisbrod, M., Hill, H., Niethammer, R., Sauer, H. 1999. Genetic influence on auditory information processing in schizophrenia: P300 in monozygotic twins. *Biol Psychiatry* **46**: 721-725.
- Whittington, M. A., Traub, R. D., Jefferys, J. G. 1995. Synchronized oscillations in interneuron networks driven by metabotropic glutamate receptor activation. *Nature* **373**: 612-615.
- Winterer, G., Coppola, R., Goldberg, T. E., Egan, M. F., Jones, D. W., Sanchez, C. E., Weinberger, D. R. 2004. Prefrontal broadband noise, working memory, and genetic risk for schizophrenia. *Am. J. Psychiatry* **161**: 490-500.
- Woldorff, M., Hansen, J. C., Hillyard, S. A. 1987. Evidence for effects of selective attention in the mid-latency range of the human auditory event-related potential. *Electroencephalogr. Clin. Neurophysiol. Suppl.* **40**: 146-154.
- Wood, C. C. and Allison, T. 1981. Interpretation of evoked potentials: a neurophysiological perspective. *Can J Psychol* **35**: 113-135.
- Yates, M., Leake, A., Candy, J. M., Fairbairn, A. F., McKeith, I. G., Ferrier, I. N. 1990. 5HT2 receptor changes in major depression. *Biol. Psychiatry* **27**: 489-496.
- Zschocke, S. 1995. *Klinische Elektroenzephalographie*, Springer-Verlag, Berlin, Heidelberg