

9- BIBLIOGRAFÍA:

- Adams JC. Single unit studies on the dorsal and intermediate acoustic striae. *J Comp Neurol* 1976; 170:97-106
- Adams JC. Multipolar cells in the ventral cochlear nucleus project to the dorsal cochlear nucleus and the inferior colliculus. *Neurosci Lett* 1983; 37:205-208
- Andersen RA, Snyder RL, Merzenich MM. The topographic organization of corticocollicular projections from physiologically identified loci in the AI, AII, and anterior auditory cortical fields of the cat. *J Comp Neurol* 1980; 191: 479-494
- Arnesen AR, Osen KK. The cochlear nerve in the cat: topography, cochleotomy, and fiber spectrum. *J Comp Neurol* 1978; 178:661-78
- Arnold W, Bartenstein P, Oestreicher E, Romer W, Schwaiger M. Focal metabolic activation in the predominant left auditory cortex in patients suffering from tinnitus: a PET study with [18F]deoxyglucose. *ORL J Otorhinolaryngol Relat Spec* 1996; 58:195-199
- Ashburner J, Friston K. Multimodal image coregistration and partitioning--a unified framework. *Neuroimage*. 1997; 6:209-217
- Ashburner J, Friston KJ. Nonlinear spatial normalization using basis functions. *Hum Brain Mapp* 1999; 7:254-266
- Ashburner J, Friston K. Voxel-based morphometry--the methods. *Neuroimage* 2000; 11:805-821
- Bajo VM, Rouiller EM, Welker E, Clarke S, Villa AE, de Ribaupierre Y, de Ribaupierre F. Morphology and spatial distribution of corticothalamic terminals originating from the cat auditory cortex. *Hear Res* 1995; 83:161-174

- Bandettini, P.A. Time Course EPI of Human Brain Function During Task Activation. *Magn Reson Med* 1992; 25:390-397
- Barth DS, Kithas J, Di S. Anatomic organization of evoked potentials in rat parietotemporal cortex: somatosensory and auditory responses. *J Neurophysiol.* 1993; 69:1837-1849
- Belliveau JW, Kennedy DN Jr, McKinstry RC, Buchbinder BR, Weisskoff RM, Cohen MS, Vevea JM, Brady TJ, Rosen BR. Functional mapping of the human visual cortex by magnetic resonance imaging. *Science* 1991; 254:716-719
- Berthezene Y, Truy E, Morgan A, Giard MH, Hermier M, Franconi JM, Froment JC. Auditory cortex activation in deaf subjects during cochlear electrical stimulation. Evaluation by functional magnetic resonance imaging. *Invest Radiol* 1997; 32:297-301
- Bilecen D, Seifritz E, Radu EW, Schmid N, Wetzel S, Probst R, Scheffler K. Cortical reorganization after acute unilateral hearing loss traced by fMRI. *Neurology* 2000; 54: 765-767
- Bilecen D, Seifritz E, Scheffler K, Henning J, Schulte AC. Amplitopicity of the human auditory cortex: an fMRI study. *Neuroimage* 2002; 17:710-718
- Binder JR, Rao SM, Hammeke TA, Yetkin FZ, Jesmanowicz A, Bandettini PA, Wong EC, Estkowski LD, Goldstein MD, Haughton VM, et al. Functional magnetic resonance imaging of human auditory cortex. *Ann Neurol* 1994; 35:662-672
- Binder JR, Rao SM, Hammeke TA, Frost JA, Bandettini PA, Hyde JS. Effects of stimulus rate on signal response during functional magnetic resonance imaging of auditory cortex. *Brain Res Cogn Brain Res* 1994; 2:31-38

- Binder JR, Frost JA, Hammeke TA, Bellgowan PS, Springer JA, Kaufman JN, Possing ET. Human temporal lobe activation by speech and nonspeech sounds. *Cereb Cortex* 2000; 10:512-528
- Blackstad TW, Osen KK, Mugnaini E. Pyramidal neurones of the dorsal cochlear nucleus: a Golgi and computer reconstruction study in cat. *Neuroscience* 1984; 13:827-854
- Boudreau JC, Tsuchitani C. Binaural interaction in the cat superior olive S segment. *J Neurophysiol* 1968; 31:442-454
- Bourk TR, Mielcarz JP, Norris BE. Tonotopic organization of the anteroventral cochlear nucleus of the cat. *Hear Res* 1981; 4:215-241
- Boxerman JL, Bandettini PA, Kwong KK, Baker JR, Davis TL, Rosen BR, Weisskoff RM. The intravascular contribution to fMRI signal change: Modeling and diffusion-weighted studies in vivo. *Magn Reson Med* 1995; 34:4-10.
- Braak E. Ultrastructure of the small pigmented stellate cell in lamina of the human isocortex. *Verh Anat Ges* 1968; 71:949-952
- Brechmann A, Baumgart F, Scheich H. Sound-level-dependent representation of frequency modulations in human auditory cortex: a low-noise fMRI study. *J Neurophysiol* 2002; 87: 423-433
- Brodmann K. Vergleichende Lokalisationslehre der Grosshirnrinde in ihren Prinzipien dargestellt auf Grund des Zellenbaues. Barth JA. Leipzig 1909: pp:324-333
- Brownell WE. Cochlear transduction: an integrative model and review. *Hear Res* 1982; 6:335-60
- Brugge JF. Auditory cortex in the primate. In: Woolsey CN, ed. *Cortical Sensory Organization. Multiple Auditory Areas*. Clifton NJ: Humana Press 1982; 3:83-88

- Brugge JF, Reale RA. Auditory Cortex. In: Peters A, Jones EG. Cerebral Cortex. Plenum Press. New York 1985; 4:229-271
- Calford MB. The parcellation of the medial geniculate body of the cat defined by the auditory response properties of single units. *J Neurosci*. 1983; 3:2350-2364
- Calford MB, Aitkin LM. Ascending projections to the medial geniculate body of the cat: evidence for multiple, parallel auditory pathways through thalamus. *J Neurosci* 1983; 3:2365-2380
- Cant NB, Morest DK. Organization of the neurons in the anterior division of the anteroventral cochlear nucleus of the cat. Light-microscopic observations. *Neuroscience* 1979; 4:1909-23
- Cant NB. The fine structure of two types of stellate cells in the anterior division of the anteroventral cochlear nucleus of the cat. *Neuroscience*. 1981; 6:2643- 2655
- Carpenter M. The cerebral cortex. In: Core text of neuroanatomy. Williams & Wilkins. 4 th. Baltimore 1991: 370-408
- Celesia GG. Organization of auditory cortical areas in man. *Brain* 1976; 99: 403-414
- Clarke S, de Ribaupierre F, Bajo VM, Rouiller EM, Kraftsik R. The auditory pathway in cat corpus callosum. *Exp Brain Res* 1995; 104:534-540
- Cohen MS, Bookheimer SY. Localization of brain function using magnetic resonance imaging. *Trends Neurosci* 1994; 17:268-277
- Covey E, Casseday JH. Connectional basis for frequency representation in the nuclei of the lateral lemniscus of the bat *Eptesicus fuscus*. *J Neurosci* 1986; 6:2926-2940
- Covey E, Vater M, Casseday JH. Binaural properties of single units in the superior olivary complex of the mustached bat. *J Neurophysiol* 1991; 66: 1080-1094

- Covey E. Response properties of single units in the dorsal nucleus of the lateral lemniscus and paralemniscal zone of an echolocating bat. *J Neurophysiol*. 1993; 69: 842-59
- Creutzfeldt O, Ojemann G, Lettich H. Single neuron activity in the right and left human temporal lobe during listening and speaking. In: Engel J Jr. *Fundamental mechanisms of human brain function*. New York, NY: Raven Press 1987; 69-81
- Czisch M, Wetter TC, Kaufmann C, Pollmacher T, Holsboer F, Auer DP. Altered processing of acoustic stimuli during sleep: reduced auditory activation and visual deactivation detected by a combined fMRI/EEG study. *Neuroimage* 2002; 16: 251-258
- Chou CK, Guy AW, Galambos R. Microwave-induced cochlear microphonics in cats. *J Microw Power* 1976; 11:171-3
- Dagli MS, Ingeholm JE, Haxby JV. Localization of cardiac-induced signal change in fMRI. *Neuroimage* 1999; 9:407-415
- Dettmers C, Connelly A, Stephan KM, Turner R, Friston KJ, Frackowiak RS, Gadian DG. Quantitative comparison of functional magnetic resonance imaging with positron emission tomography using a force-related paradigm. *Neuroimage*. 1996; 4201-209
- Diamond MC, Sheibel AB, Elson LM. *The human Brain Coloring Book*. Nueva York, Barnes & Noble, 1985
- Di S, Barth DS. Binaural vs. monaural auditory evoked potentials in rat neocortex. *Brain Res* 1993; 630:303-314
- Duling B, Matsuki T, Segal S. Conduction in the resistance-vessel wall: contributions to vasomotor tone and vascular communication. In: Bevan JA (ed) *The resistance vasculature*. Totowa, NJ: Humana Press, 1991: 193-215

- Economo CF. The cytoarchitectonics of the human cerebral cortex. Oxford medical publications. London 1929; 32:129-133
- Emson PC, Hunt SP. Peptide containing neurons of the cerebral cortex. In: Jones EG, Peters A. Cerebral cortex. Plenum Press. New York 1984; 2:145-169
- Evans A.C, Collins D.L, Mills S.R, Brown E.D, Kelly R.L, Peters T.M. 3D statistical neuroanatomical models from 305 MRI volumes. Proc. IEEE-Nuclear Science Symposium and Medical imaging conference 1993; pp: 1813-1817
- Evans EF. The frequency response and other properties of single fibres in the guinea-pig cochlear nerve. *J Physiol* 1972; 226:263-87
- Evans EF, Nelson PG. The responses of single neurones in the cochlear nucleus of the cat as a function of their location and the anaesthetic state. *Exp Brain Res* 1973; 17:402-27
- Evans EF. Place and time coding of frequency in the peripheral auditory system: some physiological pros and cons. *Audiology* 1978; 17:369-420
- Fekete DM, Rouiller EM, Liberman MC, Ryugo DK. The central projections of intracellularly labeled auditory nerve fibers in cats. *J Comp Neurol* 1984; 229:432-50
- Fox PT, Mintun MA, Raichle ME, Herscovitch P. A noninvasive approach to quantitative functional brain mapping with H₂ (15)O and positron emission tomography. *J Cereb Blood Flow Metab* 1984; 4:329-333
- Fox PT, Raichle ME. Focal physiological uncoupling of cerebral blood flow and oxidative metabolism during somatosensory stimulation in human subjects. *Proc Natl Acad Sci U S A* 1986; 83:1140-1144
- Fox PT, Raichle ME, Mintun MA, Dence C. Nonoxidative glucose consumption during focal physiologic neural activity. *Science* 1988; 241:462-464

- Frahm J, Merboldt KD, Bruhn H, Gyngell ML, Hanicke W, Chien D. 0.3-second Flash MRI of the human heart. *Magn Reson Med* 1990; 13:150-157
- Friauf E, Ostwald J. Divergent projections of physiologically characterized rat ventral cochlear nucleus neurons as shown by intra-axonal injection of horseradish peroxidase. *Exp Brain Res* 1988; 73:263-284
- Friberg L, Olsen TS, Roland PE, Paulson OB, Lassen NA. Focal increase of blood flow in the cerebral cortex of man during vestibular stimulation. *Brain*. 1985; 108:609-23
- Friston KJ, Frith CD, Frackowiak RS, Turner R. Characterizing dynamic brain responses with fMRI: a multivariate approach. *Neuroimage* 1995; 2:166-172
- Friston KJ, Price CJ, Fletcher P, Moore C, Frackowiak RS, Dolan RJ. The trouble with cognitive subtraction. *Neuroimage*. 1996; 4:97-104
- Frostig RD, Lieke EE, Ts'o DY, Grinvald A. Cortical functional architecture and local coupling between neuronal activity and the microcirculation revealed by in vivo high-resolution optical imaging of intrinsic signals. *Proc Natl Acad Sci U S A* 1990; 87: 6082-6086
- Geniec P, Morest DK. The neuronal architecture of the human posterior colliculus. A study with the Golgi method. *Acta Otolaryngol Suppl* 1971; 295:1-33
- Geschwind N, Levitsky W. Human brain: left-right asymmetries in temporal speech region. *Science* 1968; 16:1186-1187
- Giraud AL, Lorenzi C, Ashburner J, Wable J, Johnsrude I, Frackowiak R, Kleinschmidt A. Representation of the temporal envelope of sounds in the human brain. *J Neurophysiol* 2000; 84:1588-1598

- Glendenning KK, Brunso-Bechtold JK, Thompson GC, Masterton RB. Ascending auditory afferents to the nuclei of the lateral lemniscus. *J Comp Neurol* 1981; 197:673-703
- Godfrey DA, Kiang NY, Norris BE. Single unit activity in the dorsal cochlear nucleus of the cat. *J Comp Neurol* 1975; 162:269-284
- Goldstein MH Jr, Abeles M. Note on tonotopic organization of primary auditory cortex in the cat. *Brain Res* 1975; 100:188-91
- Guinan JJ Jr, Li RY. Signal processing in brainstem auditory neurons which receive giant endings (calyces of Held) in the medial nucleus of the trapezoid body of the cat. *Hear Res* 1990; 49:321-334
- Grady CL, Van Meter JW, Maisog JM, Pietrini P, Krasuski J, Rauschecker JP. Attention-related modulation of activity in primary and secondary auditory cortex. *Neuroreport* 1997; 8: 2511-2516
- Haase A, Matthaei D, Hanicke W, Frahm J. Dynamic digital subtraction imaging using fast low-angle shot MR movie sequence. *Radiology* 1986; 160:537-541
- Haase A. Snapshot FLASH MRI. Applications to T1, T2, and chemical-shift imaging. *Magn Reson Med* 1990; 13:77-89
- Hart HC, Palmer AR, Hall DA. Heschl's gyrus is more sensitive to tone level than non-primary auditory cortex. *Hear Res* 2002; 171:177-190
- Heeger DJ, Ress D. What does fMRI tell us about neuronal activity? *Nat Rev Neurosci* 2002; 3:142-151

- Heimer L. The human Brain and Spinal Cord, segunda ed. Nueva York. Springer-Verlag, 1995; 301-312
- Helfert RH, Schwartz IR. Morphological evidence for the existence of multiple neuronal classes in the cat lateral superior olivary nucleus. *J Comp Neurol* 1986; 244: 533-549
- Henkel CK. Axonal morphology in fibrodendritic laminae of the dorsal nucleus of the lateral lemniscus: afferent projections from the medial superior olivary nucleus. *J Comp Neurol* 1997; 380:136-144
- Hendrickson AE, Hunt SP, Wu JY. Immunocytochemical localization of glutamic acid decarboxylase in monkey striate cortex. *Nature* 1981; 292:605-607
- Hoogenraad FG, Reichenbach JR, Haacke EM, Lai S, Kuppusamy K, Sprenger M. In vivo measurement of changes in venous blood-oxygenation with high resolution functional MRI at 0.95 tesla by measuring changes in susceptibility and velocity. *Magn Reson Med* 1998; 39:97-107
- Huffman RF, Henson OW Jr. The descending auditory pathway and acousticomotor systems: connections with the inferior colliculus. *Brain Res Brain Res Rev*. 1990; 15: 295-323
- Iwahori N. A Golgi study on the dorsal nucleus of the lateral lemniscus in the mouse. A Golgi study on the dorsal nucleus of the lateral lemniscus in the mouse. *Neurosci Res*. 1986; 3:196-212
- Imig TJ, Morel A. Organization of the thalamocortical auditory system in the cat. *Annu Rev Neurosci* 1983; 6:95-120
- Imig TJ, Morel A. Tonotopic organization in lateral part of posterior group of thalamic nuclei in the cat. *J Neurophysiol* 1985; 53:836-51

- Jancke L, Shah NJ, Posse S, Grosse-Ryuken M, Muller-Gartner HW. Intensity coding of auditory stimuli: an fMRI study. *Neuropsychologia* 1998; 36:875-883
- Jancke L, Wustenberg T, Schulze K, Heinze HJ. Asymmetric hemodynamic responses of the human auditory cortex to monaural and binaural stimulation. *Hear Res* 2002; 170: 166-178
- Jones EG. Anatomy of cerebral cortex: columnar input-output organization. In: Schmitt FO, Worden FG (ed). *The Organization of the Cerebral Cortex*. MIT Press. Cambridge, Massachusetts 1981: 199-235
- Jueptner M, Weiller C. Review: does measurement of regional cerebral blood flow reflect synaptic activity? Implications for PET and fMRI. *Neuroimage* 1995; 2:148-156
- Kane EC. Octopus cells in the cochlear nucleus of the cat: heterotypic synapses upon homeotypic neurons. *Int J Neurosci.* 1973; 5:251-279
- Kornmüller AE. Lokalstationslehre Odor Ganshelt des Zentralnervensystems. *Neurol u Psychiatr* 1937; 158:244-246
- Kraus N, MC Gee T. Electrophysiology Auditory Pathway: *Neurophysiology*. New York. Springer-Verlag 1992:335-403
- Krnjevic K. Neurotransmitter in cerebral cortex. In: Jones EG, Peters A. *Cerebral cortex*. Plenum Press. New York 1984; 2:39-61
- Kwong KK, Belliveau JW, Chesler DA, Goldberg IE, Weisskoff RM, Poncelet BP, Kennedy DN, Hoppel BE, Cohen MS, Turner R, et al. Dynamic magnetic resonance imaging of human brain activity during primary sensory stimulation. *Proc Natl Acad Sci U S A* 1992; 89:5675-5679

- Kushner M, Schwartz R, Alavi A, et al. Cerebral activation by nonmeaningful monoaural verbal auditory stimulation. *Brain Res* 1987; 409:79-87
- Lai S, Hopkins AL, Haacke EM, Li D, Wasserman BA, Buckley P, Friedman L, Meltzer H, Hedera P, Friedland R. Identification of vascular structures as a major source of signal contrast in high resolution 2D and 3D functional activation imaging of the motor cortex at 1.5T: preliminary results. *Magn Reson Med* 1993; 30:387-392
- Lauter JL, Herscovitch P, Formby C, et al. Tonotopic organization in human auditory cortex revealed by positron emission tomography. *Hear Res* 1985; 20:199-205
- Lauterbur PC. Image formation by induced local interactions: examples employing nuclear interactions: examples employing nuclear magnetic resonance. *Nature* 1973; 242:190-191
- Le TH, Hu X. Retrospective estimation and correction of physiological artifacts in fMRI by direct extraction of physiological activity from MR data. *Magn Reson Med* 1996; 35:290-298
- Leonard CM, Puranik C, Kuldau JM, Lombardino LJ. Normal variation in the frequency and location of human auditory cortex landmarks. Heschl's gyrus: where is it? *Cereb Cortex* 1998; 8:397-406
- Liberman MC. Morphological differences among radial afferent fibers in the cat cochlea: an electron-microscopic study of serial sections. *Hear Res* 1980; 3:45-63
- Liberman MC. Single neuron labelling in the cat auditory nerve. *Science* 1982; 216:1239-1241
- Liberman MC. The cochlear frequency map for the cat: labeling auditory-nerve fibers of known characteristic frequency. *J Acoust Soc Am* 1982; 72:1441-1449

- Liberman MC, Brown MC. Physiology and anatomy of single olivocochlear neurons in the cat. *Hear Res* 1986; 24:17-36
- Lockwood AH, Salvi RJ, Coad ML, Towsley ML, Wack DS, Murphy BW. The functional neuroanatomy of tinnitus: evidence for limbic system links and neural plasticity. *Neurology* 1998; 50:114-120
- Lockwood AH, Salvi RJ, Coad ML, Arnold SA, Wack DS, Murphy BW, Burkard RF. The functional anatomy of the normal human auditory system: responses to 0.5 and 4.0 kHz tones at varied intensities. *Cereb Cortex* 1999; 9:65-76
- Loveless N, Vasama JP, Makela J, Hari R. Human auditory cortical mechanisms of sound lateralisation: III. Monaural and binaural shift responses. *Hear Res* 1994; 81: 91-99
- Malmierca MS, Blackstad TW, Osen KK, Karagulle T, Molowny RL. The central nucleus of the inferior colliculus in rat: a Golgi and computer reconstruction study of neuronal and laminar structure. *J Comp Neurol* 1993; 333:1-27
- Malmierca MS, Le Beau FE, Rees A. The topographical organization of descending projections from the central nucleus of the inferior colliculus in guinea pig. *Hear Res* 1996; 93:167-180
- Malmierca MS, Leergaard TB, Bajo VM, Bjaalie JG, Merchan MA. Anatomic evidence of a three-dimensional mosaic pattern of tonotopic organization in the ventral complex of the lateral lemniscus in cat. *J Neurosci* 1998; 18:10603-10618
- Malonek D, Grinvald A. Interactions between electrical activity and cortical microcirculation revealed by imaging spectroscopy: implications for functional brain mapping. *Science* 1996; 272:551-554

- Malonek D, Dirnagl U, Lindauer U, Yamada K, Kanno I, Grinvald A. Vascular imprints of neuronal activity: relationships between the dynamics of cortical blood flow, oxygenation, and volume changes following sensory stimulation. *Proc Natl Acad Sci U S A* 1997; 94:14826-14831
- Martin RL, Webster WR, Serviere J. The frequency organization of the inferior colliculus of the guinea pig: A [14C]-2-deoxyglucose study. *Hear Res* 1988; 33:245-255
- Mazziotta JC, Huang SC, Phelps ME, Carson RE, MacDonald NS, Mahoney K. A noninvasive positron computed tomography technique using oxygen-15--labeled water for the evaluation of neurobehavioral task batteries. *J Cereb Blood Flow Metab* 1985; 5: 70-78
- Melcher JR, Sigalovsky IS, Guinan JJ Jr, Levine RA. Lateralized tinnitus studied with functional magnetic resonance imaging: abnormal inferior colliculus activation. *J Neurophysiol* 2000; 83:1058-1072
- Menon RS, Ogawa S, Hu X, Strupp JP, Anderson P, Ugurbil K. BOLD based functional MRI at 4 Tesla includes a capillary bed contribution: echo-planar imaging correlates with previous optical imaging using intrinsic signals. *Magn Reson Med* 1995; 33:453-459
- Menon RS, Ogawa S, Strupp JP, Ugurbil K. Ocular dominance in human V1 demonstrated by functional magnetic resonance imaging. *J Neurophysiol* 1997; 77:2780-2787.
- Menon RS, Goodyear BG. Submillimeter functional localization in human striate cortex using BOLD contrast at 4 Tesla: implications for the vascular point-spread function. *Magn Reson Med* 1999; 41:230-235

- Middlebrooks JC, Dykes RW, Merzenich MM. Binaural response-specific bands in primary auditory cortex (AI) of the cat: topographical organization orthogonal to isofrequency contours. *Brain Res* 1980; 181:31-48
- Millen S.J, Haughton V.M., Yetkin F.Z. Functional Magnetic Resonance Imaging of the Central Auditory Pathway Following Speech and Pure-Tone Stimuli. *Laryngoscope* 1995; 105:1305-1310
- Moore JK. The human auditory brain stem: a comparative view. *Hear Res* 1987; 29:1-32
- Morest DK, Oliver DL. The neuronal architecture of the inferior colliculus in the cat: defining the functional anatomy of the auditory midbrain. *J Comp Neurol* 1984; 222:209-236
- Morosan P, Rademacher J, Schleicher A, Amunts K, Schormann T, Zilles K. Human primary auditory cortex: cytoarchitectonic subdivisions and mapping into a spatial reference system. *Neuroimage* 2001; 13:684-701
- Nishizawa Y, Olson TS, Larsen B, et al. Left-right cortical asymmetries of regional cerebral blood flow during listening to words. *J Neurophysiol* 1982; 48:458-465
- Ogawa S, Tank DW, Menon R, Ellermann JM, Kim SG, Merkle H, Ugurbil K. Intrinsic signal changes accompanying sensory stimulation: functional brain mapping with magnetic resonance imaging. *Proc Natl Acad Sci U S A* 1992; 89:5951-5955
- Ogawa S, Menon RS, Tank DW, Kim SG, Merkle H, Ellermann JM, Ugurbil K. Functional brain mapping by blood oxygenation level-dependent contrast magnetic resonance imaging. A comparison of signal characteristics with a biophysical model. *Biophys J* 1993; 64:803-812

- Ogawa S, Menon RS, Kim SG, Ugurbil K. On the characteristics of functional magnetic resonance imaging of the brain. *Annu Rev Biophys Biomol Struct* 1998; 27:447-474
- Ojemann JG, Miller JW, Silbergeld DL. Preserved function in brain invaded by tumor. *Neurosurgery* 1996; 39:253-258
- Oliver DL, Morest DK. The central nucleus of the inferior colliculus in the cat. *J Comp Neurol* 1984; 222: 237-264.
- Oliver DL. Neuron types in the central nucleus of the inferior colliculus that project to the medial geniculate body. *Neuroscience* 1984; 11:409-424
- Oliver DL, Kuwada S, Yin TC, Haberly LB, Henkel CK. Dendritic and axonal morphology of HRP-injected neurons in the inferior colliculus of the cat. *J Comp Neurol* 1991; 303:75-100
- Osen KK. Cytoarchitecture of the cochlear nuclei in the cat. *J Comp Neurol*. 1969; 136:453-84
- Paulesu E, Connelly A, Frith CD, Friston KJ, Heather J, Myers R, Gadian DG, Frackowiak RS. Functional MR imaging correlations with positron emission tomography. Initial experience using a cognitive activation paradigm on verbal working memory. *Neuroimaging Clin N Am*. 1995; 5:207-225
- Pauling L, Coryell C. Magnetic properties and structure of oxyhemoglobin. *Proc. Natl. Acad Sci USA* 1936 22:210-216
- Penhune VB, Zatorre RJ, MacDonald JD, Evans AC. Interhemispheric anatomical differences in human primary auditory cortex: probabilistic mapping and volume measurement from magnetic resonance scans. *Cereb Cortex* 1996; 6:661-672

- Penhune VB, Zatorre RJ, Feindel WH. The role of auditory cortex in retention of rhythmic patterns as studied in patients with temporal lobe removals including Heschl's gyrus. *Neuropsychologia*. 1999; 37:315-31
- Pfeiffer RR. Classification of response patterns of spike discharges for units in the cochlear nucleus: tone-burst stimulation. *Exp Brain Res.* 1966; 1:220-235.
- Phillips DP, Semple MN, Calford MB, Kitzes LM. Level-dependent representation of stimulus frequency in cat primary auditory cortex. *Exp Brain Res* 1994; 102:210-226
- Pinchoff RJ, Burkard RF, Salvi RJ, Coad ML, Lockwood AH. Modulation of tinnitus by voluntary jaw movements. *Am J Otol* 1998; 19:785-789
- Piñero R, Matthews PM, Maestú C, Bardasano JL. Resonancia magnética funcional y el córtex motor. Análisis de grupo. *Revista de neurología* 2001; 32:1101-1106
- Portas CM, Krakow K, Allen P, Josephs O, Armony JL, Frith CD. Auditory processing across the sleep-wake cycle: simultaneous EEG and fMRI monitoring in humans. *Neuron* 2000; 28: 991-999
- Rademacher J, Morosan P, Schleicher A, Freund HJ, Zilles K. Human primary auditory cortex in women and men. *Neuroreport* 2001; 12:1561-1565
- Rao, S.M. Functional Magnetic Resonance Imaging of complex Human Movements. *Neurology* 1993; 43: 2311-2318
- Ramón y Cajal S. *Histología del sistema nervioso del hombre y de los vertebrados*. Madrid ed N Moya 1904: 774-838
- Reale RA, Imig TJ. Tonotopic organization in auditory cortex of the cat. *J Comp Neurol* 1980; 192: 265-91
- Rees A, Sarbaz A, Malmierca MS, Le Beau FE. Regularity of firing of neurons in the inferior colliculus. *J Neurophysiol* 1997; 77:2945-2965

- Rhode WS, Smith PH. Encoding timing and intensity in the ventral cochlear nucleus of the cat. *J Neurophysiol* 1986; 56:261-86
- Roland PE, Friberg L. Localization of cortical areas activated by thinking. *J Neurophysiol* 1985; 53:1219-1243
- Rouiller E, de Ribaupierre Y, Morel A, de Ribaupierre F. Intensity functions of single unit responses to tone in the medial geniculate body of cat. *Hear Res* 1983; 11:235-247
- Rouiller EM, Ryugo DK. Intracellular marking of physiologically characterized cells in the ventral cochlear nucleus of the cat. *J Comp Neurol* 1984; 225:167-86
- Rouiller EM, de Ribaupierre F. Origin of afferents to physiologically defined regions of the medial geniculate body of the cat: ventral and dorsal divisions. *Hear Res* 1985; 19:97-114
- Roy C, Sherrington C. Functional brain activation in dogs. *J Physiol* 1890; 11:85
- Rupp A, Hack S, Gutschalk A, Schneider P, Picton TW, Stippich C, Scherg M. Fast temporal interactions in human auditory cortex. *Neuroreport* 2000; 11:3731-3736
- Saldaña E, Feliciano M, Mugnaini E. Distribution of descending projections from primary auditory neocortex to inferior colliculus mimics the topography of intracollicular projections. *J Comp Neurol* 1996; 371:15-40
- Scheffler K, Bilecen D, Schmid N, Tschopp K, Seelig J. Auditory cortical responses in hearing subjects and unilateral deaf patients as detected by functional magnetic resonance imaging. *Cereb Cortex* 1998; 8: 156-163
- Schofield BR, Cant NB. Ventral nucleus of the lateral lemniscus in guinea pigs: cytoarchitecture and inputs from the cochlear nucleus. *J Comp Neurol* 1997; 379:363-385
- Schonwiesner M, von Cramon DY, Rubsamen R. Is it tonotopy after all? *Neuroimage* 2002; 17:1144-1161

- Schreiner CE, Langner G. Laminar fine structure of frequency organization in auditory midbrain. *Nature* 1997; 388:383-386
- Schwartz IR. The superior Olivary complex and lateral lemniscal nuclei. En: Webster DB, Popper AN, fay RR, eds. *The mammalian auditory pathway: Neuroanatomy*. Nueva York Springer-Verlag 1992; pp:117-167
- Segebarth C, Belle V, Delon C, Massarelli R, Decety J, Le Bas JF, Decors M, Benabid AL. Functional MRI of the human brain: predominance of signals from extracerebral veins. *Neuroreport* 1994; 5:813-816
- Stark D, Bradley WG. *Resonancia Magnética*. Ed. Harcourt. S.A. Madrid 2000.
- Shosaku A, Sumitomo I. Auditory neurons in the rat thalamic reticular nucleus. *Exp Brain Res* 1983; 49:432-442
- Silbergeld DL. Tumors of Heschl's gyrus: report of two cases. *Neurosurgery* 1997; 40:389-392
- Simm GM, de Ribaupierre F, de Ribaupierre Y, Rouiller EM. Discharge properties of single units in auditory part of reticular nucleus of thalamus in cat. *J Neurophysiol* 1990; 63:1010-1021
- Singer W. Control of thalamic transmission by corticofugal and ascending reticular pathways in the visual system. *Physiol Rev* 1977; 57:386-420
- Smith PH, Joris PX, Yin TC. Projections of physiologically characterized spherical bushy cell axons from the cochlear nucleus of the cat: evidence for delay lines to the medial superior olive. *J Comp Neurol* 1993; 331:245-60
- Sobel DF, Gallen CC, Schwartz BJ, Waltz TA, Copeland B, Yamada S, Hirschkoff EC, Bloom FE. Locating the central sulcus: comparison of MR anatomic and magnetoencephalographic functional methods. *AJNR Am J Neuroradiol* 1993; 14:915-925

- Somers DC, Dale AM, Seiffert AE, Tootell RB. Functional MRI reveals spatially specific attentional modulation in human primary visual cortex. *Proc Natl Acad Sci U S A* 1999; 96:1663-1668
- Spangler KM, Warr WB, Henkel CK. The projections of principal cells of the medial nucleus of the trapezoid body in the cat. *J Comp Neurol* 1985; 238: 249-262
- Spoendlin H. Innervation patterns in the organ of corti of the cat. *Acta Otolaryngol* 1969; 67:239-54
- Stehling MK, Turner R, Mansfield P. Echo-planar imaging: magnetic resonance imaging in a fraction of a second. *Science* 1991; 254:43-50
- Strainer J.C, Ulmer J.L, F.Z Yetkin, et al. Functional MR of the Primary Auditory Cortex: An Analysis of Pure Tone Activation and Tone Discrimination. *AJNR* 1997; 18:601-610
- Sunaert S, Dymarkowski S, Van Oostende S, Van Hecke P, Wilms G, Marchal G. Functional magnetic resonance imaging (fMRI) visualises the brain at work. *Acta Neurol Belg* 1998; 98:8-16
- Thulborn KR, Waterton JC, Matthews PM, Radda GK. Oxygenation dependence of the transverse relaxation time of water protons in whole blood at high field. *Biochim Biophys Acta* 1982; 714:265-270
- Thivard L, Belin P, Zilbovicius M, Poline JB, Samson Y. A cortical region sensitive to auditory spectral motion. *Neuroreport* 2000; 11:2969-2672
- Tolbert LP, Morest DK. The neuronal architecture of the anteroventral cochlear nucleus of the cat in the region of the cochlear nerve root: electron microscopy. *Neuroscience* 1982; 7:3053-3067
- Turner R, Le Bihan D, Moonen CT, Despres D, Frank J. Echo-planar time course MRI of cat brain oxygenation changes. *Magn Reson Med* 1991; 22:159-166

- Turner R. Magnetic resonance imaging of brain function. *Ann Neurol.* 1994; 35:637-638
- Turner R, Howseman A, Rees GE, Josephs O, Friston K. Functional magnetic resonance imaging of the human brain: data acquisition and analysis. *Exp Brain Res* 1998; 123:5-12
- Vanzetta I, Grinvald A. Increased cortical oxidative metabolism due to sensory stimulation: implications for functional brain imaging. *Science* 1999; 286:1555-1558
- Vater M, Casseday JH, Covey E. Convergence and divergence of ascending binaural and monaural pathways from the superior olives of the mustached bat. *J Comp Neurol* 1995; 351:632-646
- Von Bekesy G. Pressure and shearing forces as stimuli of labyrinthine epithelium. *Arch Otolaryngol* 1966 Aug; 84:122-130
- Watanabe T, Harner AM, Miyauchi S, Sasaki Y, Nielsen M, Palomo D, Mukai I. Task-dependent influences of attention on the activation of human primary visual cortex. *Proc Natl Acad Sci U S A* 1998; 95:11489-11492
- Warr WB. Olivocochlear and vestibular efferent neurons of the feline brain stem: their location, morphology and number determined by retrograde axonal transport and acetylcholinesterase histochemistry. *J Comp Neurol*. 1975; 161:159-81
- Webster DB. An overview of mammalian auditory pathways with an emphasis on humans. In: Webster DB, Popper AN, Fay RR. *The mammalian auditory pathway: Neuroanatomy*. New York. Springer-Verlag 1992; pp:1-22
- Webster WR, Serviere J, Crewther D, Crewther S. Iso-frequency 2-DG contours in the inferior colliculus of the awake monkey. *Exp Brain Res* 1984; 56:425-437

- Whitley JM, Henkel CK. Topographical organization of the inferior collicular projection and other connections of the ventral nucleus of the lateral lemniscus in the cat. *J Comp Neurol* 1984; 229:257-270
- Wise R, Chollet F, Hadar U, et al. Distribution of cortical neural networks involved in word comprehension and word retrieval. *Brain* 1991; 114:1803-1817
- Winer JA. The human medial geniculate body. *Hear Res* 1984; 15: 225-24
- Winer JA, Morest DK. The neuronal architecture of the dorsal division of the medial geniculate body of the cat. A study with the rapid Golgi method. *J Comp Neurol* 1983; 221:1-30
- Winer JA. The functional architecture of the medial geniculate body and the primary auditory cortex. In: Webster DB, Popper AN, Fay RR. *The mammalian auditory pathway: Neuroanatomy*. New York. Springer-Verlag 1992; pp:222-409
- Winslow RL, Sachs MB. Effect of electrical stimulation of the crossed olivocochlear bundle on auditory nerve response to tones in noise. *J Neurophysiol* 1987; 57:1002-1021
- Wold SD, Balaban R.S. Magnetization transfer Contrast (MCT) and Tissue Water Proton Relaxation in vitro. *Magn Reson Med* 1989; 10: 135-144
- Woldorff MG, Gallen CC, Hampson SA, Hillyard SA, Pantev C, Sobel D, Bloom FE. Modulation of early sensory processing in human auditory cortex during auditory selective attention. *Proc Natl Acad Sci U S A* 1993; 90:8722-8726
- Wouterlood FG, Mugnaini E. Cartwheel neurons of the dorsal cochlear nucleus: a Golgi- electron microscopic study in rat. *J Comp Neurol* 1984; 227:136-57
- Yin TC, Kuwada S, Sujaku Y. Interaural time sensitivity of high-frequency neurons in the inferior colliculus. *J Acoust Soc Am* 1984; 76:1401-1410
- Young ED, Brownell WE. Responses to tones and noise of single cells in dorsal

cochlear nucleus of unanesthetized cats. J Neurophysiol 1976; 39:282-300

- Zatorre RJ, Evans AC, Meyer E, et al. Lateralization of phonetic and pitch discrimination in speech processing. Science 1992; 256:846-849