

BIBLIOGRAPHY

1st Part: Main Publications (in alphabetic order)

- ALATARIS K., BERGER T. W., MARMARELIS V. Z., *A novel network for nonlinear modelling of neural Systems with arbitrary point-process inputs*, Neural Networks, vol. 13, pp. 255-266, 2000.
- AMARAL D. G., WITTER M. P., *The three-dimensional organization of the hippocampal formation: A review of anatomical data*, Neurosci, vol. 31, pp. 571-591, 1989.
- ANDERSEN P., BLISS T. V. P., SKREDE K. K., *Lamellar organization of hippocampal excitatory pathways*, Exp. Brain Res: vol. 13, pp. 222-238.1971.
- Anderson JA, ROSENFELD E (eds) (1988) *Neurocomputing, foundations of research*. MIT Press. Cambridge, Mass.
- ATKINS P.W., *Physical Chemistry*, Oxford University Press, 1994.
- , FREIDMAN R.S., *Molecular Quantum Mechanics*, Oxford University Press, 1997.
- BAUDRY M., *Synaptic plasticity and learning and memory: 15 years of progress*, Neurobiol. Learning Memory, vol. 70, pp. 113-118, 1998.
- BENNETT MV (1966) *Physiology of electrotonic junctions*. NY Acad Sci 137: 509-539.
- BERGER T. W., SOUSSOU W., GHOLMIEH G., BRINTON R., BAUDRY M., *Multielectrode array recordings from the hippocampus in vitro*, Soc. Abstr., vol. 25, p. 902, 1999.
- BERGER T.W., BAUDRY M., DIAZ BRINTON R., LIAW J-S., MARMARELIS V.Z., PARK A.Y., SHEU B.J., TANGUAI A.R., *Brain implantable biomimetic electronics as the next era in neural prosthetics*, Proceedings of the IEEE, vol. 89, NO 7, 2001.
- BERGER T. W., HARTY T. P., XIE X., BARRIONUEVO G., SCLABASSI R. J., *Modelling of neuronal networks through experimental decomposition*, in Proc. IEEE 34th Mid. Symp. Cir. Sys., 1992, pp. 91-97.
- BERGER T. W., CHAUVET G., SCLABASSI R. J., *A biologically based model of functional properties of the hippocampus*, Neural Netw., vol. 7, pp. 1031-1064, 1994.
- BERGER T. W., BASSETT J. L., *System properties of the hippocampus*, in *Learning and Memory: The Biological Substrates*, I. Gormezano and E. A. Wassennan, Eds. Hillsdale. NJ: Lawrence Erlbaum, 1992. pp. 275-320.
- BERGER T. W., ERIKSSON J. L., CIAROLLA D. A., SCLABASSI R. J., *Nonlinear Systems analysis of the hippocampal perforant path-dentate projection, II. Effects of random train stimulation*, J. Neurophys., vol. 60, pp. 1077-1094. 1988.
- BERGER T. W., ERIKSSON J. L., CIAROLLA D. A., SCLABASSI R. J., *Nonlinear Systems analysis of the hippocampal perforant pathdentate projection. III. Comparison of random train and paired impulse analyses*, J. Neurophys., vol. 60, pp. 1095-1109, 1988.
- BERGER T. W., BARRIONUEVO G., LCVITAN S. P., KRIEGER D. N., SCLABASSI R. J., *Nonlinear Systems analysis of network properties of the hippocampal formation*. in *Neurocomputation and Learning: Foundations of Adaptive Networks*, J. W. Moore

- and M. Gabriel, Eds. Cambridge, MA: MIT Press. 1991, pp 283-352.
- BERGER T. W., CHAUVET G., SCLABASSI R. J., *A biologically based model of functional properties of the hippocampus*, Neural Netw., vol. 7, pp. 1031-1064, 1994.
- BIRD R.B., STEWARS W.E., LIGHTFOOT E.N., *Transport Phenomena*, 1960.
- BODMER R, DAGAN D, LEVITAN IB (1984) *Chemical and electrotonic connections between Aplysia neurons in primary culture*. J Neurosci 4: 228-233.
- BODMER R, VERSELIS V, LEVITAN IB, SPRAY DC (1988) *Electrotonic synapses between Aplysia neurons in situ and in culture: aspects of regulation and measurements of permeability*. J Neurosci 8: 1656-1670.
- BRAUN D, FROMHERZ P (1998) *Fluorescence interferometry of neuronal cell adhesion on microstructured silicon*. Phys Rev Lett 81: 5241-5244.
- Cara E. STEPP, QI AN, Yoky MATSUOKA, *Repeated Training with Augmentative Vibrotactile Feedback Increases Object Manipulation Performance*, Nicole Wenderoth, Katholieke Universiteit Leuven, Belgium 2012.
- CASILE A., CAGGIANO V., FERRARI P.F., *The Mirror Neuron System*, Neuroscientist vol. 17 no. 5 524-538, 2011.
- CHUA L. O., YANG L., *Cellular neural networks: Applications*, IEEE Trans. Circuits Syst., vol. 35, pp. 1273-1290, Oct. 1988.
- DACEY D. M., PETERSEN M. R. (1992) *Dendritic field size and morphology of midget and parasol ganglion cells of the human retina*. Proc. Natl. Acad. Sci. USA, 89, 9666-9670.
- DALAL S. S., MARMARELIS V. Z., BERGER T. W., *A nonlinear positive feedback model of glutamatergic synaptic transmission in dentate gyrus*, in Proc. 4th Joint Symp. Neural Comp., vol. 7, 1997, pp 68-75.
- DENBIGH K., *The principles of Chemical Equilibrium*, Cambridge University Press, 1964.
- DOMANY E, VAN HEMMEN JL, SCHULTEN K (eds) (1991) *Models of neural networks*. Springer, Berlin, Heidelberg, New York.
- ECKMILLER R., *Biology-inspired pulse processing neural networks (BPN) for neurotechnology*, Neural Networks, IJCNN Nagoya, 1993.
- ECKMILLER, R. (1993) *Concerning the challenge of neurotechnology*, in: Neurobionics, Bothe, M.-W., Samii, M., and Eckmiller, R. (eds.), Elsevier, Amsterdam, pp. 21-28.
- (ed.) (1994) *Final Report of the Feasibility Study for a Neurotechnology Program*, BMFT, Bonn.
- (1991) *Pulse processing neural Systems for motor control*, in: Artificial Neural Networks. Kohonen, T., Makisara, K., Simula, O., Kangas, J. (eds.), Elsevier, Amsterdam, vol. 1, pp. 345-350.
- ECKMILLER, R., NAPP-ZINN H. (1993) *Information processing in biology-inspired pulse coded neural networks*, in: Proc. Int. Joint Conf. on Neural Networks, Nagoya, vol 1, pp.643-648.
- EGERT U., SCHLOSSHAUER B., FENNRICH S., NISCH W., FEJTL M., KNOTT T., MÜLLER T., HÄMMERLE H., *A novel organotypic long-term culture of the rat hippocampus on substrate-integrated multielectrode arrays*, Brain Res. Protoc., vol. 2, pp. 229-242, 1998.

- EICHENBAUM H., *The hippocampus and mechanisms of decorative memory*, Behav. Brain Res., vol. 3, pp. 123-33, 1999.
- VON FOERSTER H., *Basic Concepts of Homeostasis*. In: *Homeostatic Mechanisms*, Upton, New York, pp. 216–242, 1958.
- , *Bionics*. In: Bionics Symposium, Wright Air Development Division, Technical Report 60–600, J. Steele (Hg.), pp. 1–4, 1960.
- , *Some Aspects in the Design of Biological Computers*. In: Second International Congress on Cybernetics, Namur, pp. 241–255, 1960.
- , *Technology of Self- Organizing Systems* (Hg.), Pergamon Press, London, 526 S. 1962.
- , *Communication Amongst Automata*, American Journal of Psychiatry 118, pp. 865–871, 1962.
- , *Bio-Logic*. In: Biological Prototypes and Synthetic Systems, E. E. Bernard und M. A. Kare (Hg.), Plenum Press, New York, pp. 1–12, 1962.
- , *Bionics*. In: McGraw-Hill Yearbook Science and Technology, McGraw-Hill, New York, pp. 148–151, 1963.
- , *Logical Structure of Environment and Its Internal Representation*. In: Transactions of the International Design Conference, Aspen, R. E. Eckerstrom (Hg.), H. Miller, Inc., Zeeland, Mich., pp. 27–38, 1963.
- , *Molecular Bionics*. In: Information Processing by Living Organisms and Machines, H. L. Oestreicher (Hg.), Aerospace Medical Division, Dayton, pp. 161–190, 1964.
- , *Structural Models of Functional Interactions*. In: Information Processing in the Nervous System, R. W. Gerard und J. W. Duff (Hg.), Excerpta Medica Foundation, Amsterdam, The Netherlands, pp. 370–383, 1964.
- , *Bionics Principles*. In: Bionics, R. A. Willaume (Hg.), AGARD, Paris, pp. 1–12, 1965.
- , *From Stimulus to Symbol*. In: Sign, Image, Symbol, G. Kepes (Hg.), George Braziller, New York, pp. 42–61, 1966.
- , *Bionics, Critique and Outlook*. In: Principles and Practice of Bionics, H. E. von Gierke, W. D.
- , *On Cybernetics of Cybernetics and Social Theory*. In: Self- Organizing Systems, G. Roth und H. Schwegler (Hg.), Campus Verlag, Frankfurt, pp. 102–105, 1981.
- , *Observing Systems*, with an introduction of Francisco Varela, InterSystems Publications, Seaside, 331 + xvi S., 1982.
- , *From Stimulus to Symbol*. In: Event Cognition: An Ecological Perspective, Viki McCabe und Gerald J. Balzano (Hg.), Lawrence Erlbaum Assoc., Hillsdale, NY, pp. 79–92, 1986.
- , *Cybernetics of Epistemology*, Special Edition, ASC Annual Conference, Chicago, Illinois, 5/17–21/95; The American Society for Cybernetics, Philadelphia, PA, 19144.
- VON FOERSTER, with W. R. ASHBY und C. C. WALKER, *The Essential Instability of Systems with Treshold, and Some Possible Applications to Psychiatry*. In: Nerve, Brain and Memory Models, N. Wiener und I. P. Schade (Hg.), Elsevier, Amsterdam,

pp. 236–243, 1963.

VON FOERSTER H., With P. M. Mora L. W. Amiot, *Projections versus Forecasts*, in *Human Population Studies*, Science 136, pp. 173–174, 1962.

VON FOERSTER H., with W. R. Ashby, *Biological Computers*. In: *Bioastronautics*, K. E. Schaefer (Hg.), The Macmillan Co., New York, pp. 333- 360, 1964.

FROMHERZ P (1996) *Interfacing neurons and silicon by electrical inductance*. *Ber Bunsenges Phys Chem* 100: 1093-1102.

—, (1999) *Extracellular recording with transistors and the distribution of ionic conductances in a cell membrane*. *Eur Biophys J* 28: 254-258.

FROMHERZ P, OFLENHÄUSSER A, VETTER T, Weis J (1991) *A neuron-silicon junction: a Retzius cell of the leech on an insulated-gate field-effect transistor*. *Science* 252: 1290-1293.

FROMHERZ P, SCHADEN H (1994) *Defined neuronal arborisation by guided outgrowth of leech neurons in culture*. *Eur J Neurosci* 6: 1500-1504.

FROMHERZ P, STETT A (1995) *Silicon-neuron junction: capacitive stimulation of an individual neuron on a silicon chip*. *Phys Rev Lett* 75: 1670-1673.

GHOLMIEH G., SOUSSOU W., BRINTON R., NORDHOLM A. F., BAUDRY M., BERGER T. W., *Monitoring of trimethylpropane phosphate's (TMPP) neurotoxic effect on hippocampal slices and cells using multielectrode arrays*, *Soc. Neurosci Abstr.*, vol. 25, p. 902, 1999.

GODDARD W. A. III, BRENNER D. W., LYSHEVSKI S. E., IAFRATE G. J., *Handbook of Nanoscience, Engineering, and Technology*, CRC Press LLC. 2003.

GRATTAROLA-MASSOBRIO: “*Bioelectronics Handbook*”, McGraw-Hill 1° ed. 1998.

GROSS G. W., WILLIAM A. N., LUCAS J. H., *Recording of spontaneous activity with photoetched microelectrode surfaces from mouse spinal neurons in culture*, *J. Neurosci Meth.*, vol. 5, pp. 13-22, 1982.

GUTHRIE PB, LEE RE, REHDER V, Schmidt MF, Kater SK (1994) *Self-recognition: a constraint on the formation of electrical coupling in neurons*. *J Neurosci* 14: 1477-1485.

HADLEY RD, BODNAR DA, KATER SB (1985) *Formation of electrical synapses between isolated, cultured Helisoma neurons requires mutual neurite elongation*. *J Neurosci* 5: 3145-3153.

HADLEY RD, KATER SB, COHAN CS (1983) *Electrical synapse formation depends on interaction of mutually growing neurites*. *Science* 221:466-468.

HAN M., NASIATKA P., GHOLMIEH G., SOUSSOU W., BAUDRY M., Berger T. W., A. R. Tanguay, *Conformally mapped neural probe arrays for multisite stimulation and recording*, *Soc. Neurosci Abstr.*, vol. 26, p. 184, 2000.

HARRIS-WARRICK. R. M., MARDER, E., SELVERSTON, A. I., and MOULINS. M. (eds.) (1992) *Dynamic Biological Networks*. MIT Press, Cambridge.

HERTZ J, KROGH A, PALMER RG (1991) *Introduction to the theory of neural computation*. Addison-Wesley, Redwood City.

HIROAKI O., SHIMONO K., OGAWA R., SUGIHARA H., TAKETANI M., *A new planar multielectrode array for extracellular recording: Application to hippocampal acute slice*, *J. Neurosci Meth.*, vol. 93, pp. 61-67, 1999.

HOPFIELD JJ (1982) *Neural networks and physical Systems with emergent collective*

computational abilities. Proc Natl Acad Sci USA 79: 2554-2558.

—. (1984) *Neurons with graded response have collective computational properties like those of two-state neurons*. Proc Natl Acad Sci USA 81: 3088-3092.

—, 1984a, *Collective processing and neural states*, in Nicolini C. ed, *Modelling and Analysis in Biomedicine*, World Scientific, NY.

HOPFIELD J.J. and Tank D.W., 1985, “*Neural*” *computation of decision in optimization problems*, Biol. Cybern., 52, 141.

—, 1986, *Computing with neural circuits: a model*, Science, 233, 625.

HUMAYUN, M. S., PROPST, R. H., HICKINGBOTHAM, D., de Juan, E., Dagnelie, G. (1993) *Visual sensations produced by electrical stimulation of the retinal surface in patients with end-stage retinitis pigmentosa (RP)*. Invest. Ophthalmol. & Vis. Sci., 34 (Suppl.). 835.

HUMAYUN M. S., DE JUAN E. Jr., WEILAND J. D., DAGNELIE G., KALONA S., GREENBERG R. J., SUZUKI S., *Pattern electrical stimulation of the human retina*, Vision Res., submitted for publication.

IATROU M., BERGER T W., MARMARELIS V. Z., *Modelling of non-linear non stationary dynamic Systems with a novel class of artificial neural networks*, IEEE Trans. Neural Networks, vol. 10, pp. 327-339, 1999.

IATROU M., BERGER T W., MARMARELIS V. Z., *Application of a novel modelling method to the non stationary properties of potentiation in the rabbit hippocampus*, Ann. Biomed. Eng., vol. 27, pp. 581-591, 1999.

JAMES C. D., DAVIS R., MEYER M., TURNER A., TURNER S., WITHERS G., KAM L., BANKER G., CRAIGHEAD H., ISAACSON M., TURNER J., SHAIN W., *Aligned microcontact printing of micrometer-scale poly-L-lysine structures for controlled growth of cultured neurons on planar microelectrode arrays*, IEEE Trans. Biomed Eng., vol. 47, pp. 17-21, 2000.

JANSEN, M., BLUHM, M., NAPP-ZINN, H., and ECKMILLER, R. (1991) *Asynchronous pulse-processing neural net hardware for dynamic functions based on frequency and phase information*. In: Proc. 2nd Int. Conf. Microelectronics and Neural Networks, (Ramacher, Rückert, Nossek, eds.), Kyrill & Metliod - München, pp.359-365.

JENKER M, MÜLLER B., FROMHERZ P., *Interfacing a silicon chip to pairs of snail neurons connected by electrical synapses*, Biol. Cybern., 84, 239-249, 2001.

JENKNER M, FROMHERZ P (1997) *Bistability of membrane conductance in cell adhesion observed in a neuron-transistor*. Phys Rev Lett 79: 4705-4708.

Kaat ALAERTS, Patrice SENOT, Stephan P. SWINNEN, Laila CRAIGHERO, Nicole WENDEROTH, Luciano FADIGA, *Force requirements of observed object lifting are encoded by the observer's motor System: a TMS study*, Federation of European Neuroscience Societies and Blackwell Publishing Ltd, 2010.

KANDEL ER (1976) *Cellular basis of behaviour*. Freeman, San Francisco.

KANDEL E.R., SCHWARTZ J.H., JESSELL T.M., *Principles of Neural Science*, Elsevier Science Publication Co. 1991.

KIESSLING V, MULLER B, FROMHERZ P (2000) *Extracellular resistance in cell adhesion measured with a transistor probe*. Langmuir 7: 3517-3521.

KLEINFELD D, RACCUA-BEHLING F, CHIEL HJ (1990) *Circuits reconstructed from identified Aplysia neurons exhibit multiple patterns of persistent activity*. Biophys J 57: 697-715.

- KRAUSZ H., *Identification of nonlinear Systems using random impulse train inputs*, Bio. Cyb., vol. 19, pp. 217-230, 1975.
- KRIEGER D. N., BERGER T. W., SCLABASSI R. J., *Instantaneous characterization of time-varying nonlinear Systems*, IEEE Trans. Biomed. Eng., vol. 39, pp. 420-424, 1992.
- KYRIAKIDES M. MCCROHAN CR, SLADE CT, SYED NI, WINLOW W (1989) *The morphology and electrophysiology of the neurons of the paired pedal ganglia of Lymnaea stagnalis*. Comp Biochem Physiol 93: 861-876.
- LAJTHA A. (Editor), *Handbook of Neurochemistry and Molecular Neurobiology - Amino Acids and Peptides in the Nervous System*, Springer, 2007.
- , *Handbook of Neurochemistry and Molecular Neurobiology - Neural Lipids*, Springer, 2009.
- LEE Y. W., SCHETZEN M., *Measurement of the kernels of a nonlinear System by cross-correlation*, Int. J. Control, vol. 2, pp. 237-254, 1965.
- LIAW J. S., BERGER T. W., *Dynamic synapse: A new concept of neural representation and computation*, Hippocampus, vol. 6, pp. 591-600, 1996.
- ., *Computing with dynamic synapses: A case study of speech recognition*, in Proc. IEEE Int. Conf. Neural Networks, 1997, pp. 350-355.
- , *Robust speech recognition with dynamic synapses*, in Proc. IEEE Int. Conf. Neural Networks, 1998, pp. 2175-2179.
- , *Dynamic synapses: Harnessing the computing power of synaptic dynamics*, Neurocomputing, vol. 26-27, pp. 199-206, 1999.
- LOEB G. E., *Cochlear prosthetics*, Ann. Rev. Neurosci, vol. 13. pp. 357-71, 1990.
- MAGEE J., HOFFMAN D., COLBERT C., JOHNSTON D., *Electrical and calcium signalling in dendrites of hippocampal pyramidal neurons*, Ann. Rev. Phys., vol. 60. p. 327, 1998.
- MAHOWALD, M. A. and DOUGLAS. R. (1991) *A silicon neuron*. Nature, 354, 515-518.
- MARMARELIS P. Z., MARMARELIS V. Z., *Analysis of Physiological Systems: The White-Noise Approach*, New York: Plenum, 1978.
- MARMARELIS V. Z., *Identification of nonlinear biologically Systems using Laguerre expansions of kernels*, Ann. Biomed. Eng., vol. 21. pp. 573-589, 1993.
- MARMARELIS V. Z., Orme M. E., *Modelling of neural Systems by use of neuronal modes*, IEEE Trans. Biomed. Eng., vol. 40, pp. 1149-1158, 1993.
- MARMARELIS V. Z., Zhao X., *Volterra models and three-layer perceptrons*, IEEE Trans. Neural Networks, vol. 8, pp. 1421-1433, 1997.
- MAURITZ K. H., PECKHAM H. P., *Restoration of grasping functions in quadriplegic patients by functional electrical stimulation (FES)*, Int. J. Rehab. Res., vol. 10, pp. 57-61, 1987.
- MAY, M. (1993), *The electric eye: A light-sensitive chip grafted to the human retina promises rudimentary vision for some people who cannot see*, Popular Science, August 93, pp. 60-76.
- MCKENNA, T., DAVIS, J., and ZOMETZER, S. F. (eds.) (1992) *Single Neuron Computation*, Academic Press. Boston.
- MIKLÓSI Á., GÁCSI M., *On the Utilization of Social Animals as a Model for Social Robotics*, Frontiers in Comparative Psychology, a specialty of Frontiers in

Psychology, 2012.

MORI M. (1970). *Bukimi no tani - The uncanny valley* (K. F. MacDorman & T. Minato, Trans.). *Energy*, 7(4), 33–35.

NELSON D.L., COX M. M., *Lehninger Principles of Biochemistry*, W.H. Freeman and Company NY 2008.

NELSON N., SACHER A., NELSON H., *The significance of molecular slips in transport Systems*, *Nature Reviews, Molecular Cell Biology*, Vol. 3, 2002.

O'KEEFE J., NADEL L., *The Hippocampus as a Cognitive Map*,. Oxford. U.K.: Oxford Univ. Press. 1978.

OJA S. S., SARANSAARI P., SCHOUSBOE A., *Handbook of Neurochemistry and Molecular Neurobiology Amino Acids and Peptides in the Nervous System*, Springer Science and Business Media, LLC. 2007.

PARK Y., LIAW J. S., SHEU B. J., BERGER T. W., *Compact VLSI neural network circuit with high-capacity dynamic synapses*, in *Proc. IEEE Int. Conf. Neural Networks*, vol. 4, 2000, pp. 214-218.

PRINZ AA, FROMHERZ P (2000) *Electrical synapses by guided growth of cultured neurons from the snail Lymnaea stagnalis*. *Biol Cybern* 82: L1-L5.

RAO M.S., JACOBSON M., *Developmental Neurobiology*, New York 2005.

RAPHIQ I., ZOHAR E., *Brain's involvement in processing depends on language's graphic symbols*, *Psychology & Psychiatry* 2012.

RAYPORT SG, SCHACHER S (1986) *Synaptic plasticity in vitro: cell culture of identified Aplysia neurons mediating short-term habituation and sensitization*. *J Neurosci* 6: 759-763.

RICHERT, P., HOSTICKA. B. J., KESPER. M., SCHOLLES. M., SCHWARZ. M. (1993) *An emulator for biology cally-inspired neural networks*, in: *Proc. Int. Joint Conf. on Neural Networks*, Nagoya, vol. 1, pp. 841-844.

RIDGWAY RL, SYED NI, LUKOWIAK K, BULLOCH AGM (1991) *Nerve growth factor (NGF) induces sprouting of specific neurons of the snail Lymnaea stagnalis*. *J Neurobiol* 22: 377-390.

RUGH W. J., *Nonlinear Systems Theory: The Volterra/Wiener Approach*, Baltimore, MD: John Hopkins Univ. Press. 1981.

SAGLAM M., MARMARELIS V. Z., BERGER T. W., *Identification of brain Systems with feedforward artificial neural networks*, *Proc. World Congr. Neural Networks*, pp. 478-481. 1996.

SCHÄTZTHAUER R, FROMHERZ P (1998) *Neuron-silicon junction with voltage-gated ionic currents*. *Eur J Neurosci* 10: 1956-1962.

SCLABASSI R. J., KRIEGER D. N., BERGER T. W., *A Systems theoretic approach to the study of CNS function*, *Ann. Biomed. Eng.*, vol. 16, pp. 17-34, 1988.

SAYGIN A.P., CHAMINADE T., ISHIGURO H., DRIVER J., FRITH C., *The thing that should not be: predictive coding and the uncanny valley in perceiving human and humanoid robot actions*, *Soc Cogn Affect Neurosci* (2012) 7 (4): 413-422. First published online: April 22, 2011.

SELVERSTON AI (1985) *Model neural networks and behaviour*. Plenum, New York.

SHAPIRO M. L., EICHENBAUM H., *Hippocampus as a memory map: Synaptic plasticity and memory encoding by hippocampal neurons*, *Hippocampus*. vol. 9. pp. 365-84,

1999.

- SHIMONO K., BRUCHER F., GRANGER R., LYNCH G., TAKELANI M., *Origins and distribution of cholinergically induced β rhythms in hippocampal slices*, J. Neurosci, vol. 20, pp. 8462-8473, 2000.
- SLADE CT, MILLS J, WINLOW W (1981) *The neuronal organisation of the paired pedal ganglia of Lymnaea stagnalis*. Comp Biochem Physiol A 69:789-803.
- SOUSSOU W., YOON G., GHOLMIEH G., BRINTON R., BERGER T. W., *Characterization of dissociated hippocampal neurons cultured on various biochemical substrates and multielectrode arrays for the creation of neuronal networks*, Soc. Neurosci Abstr., vol. 25, p. 903, 1999.
- SOUSSOU W., YOON G., GHOLMIEH G., BRINTON R., BERGER T. W., *Network responses of dissociated hippocampal neurons cultured onto multielectrode arrays*, Soc. Neurosci Abstr., vol. 26, p. 1699, 2000.
- SQUIRE L. R., ZOLA S. M., *Episodic memory. Semantic memory. And amnesia*, Hippocampus. vol. 8. pp. 205-11. 1998.
- STETT A, MÜLLER B, FROMHERZ P (1997) *Two-way silicon-neuron interface by electrical induction*. Phys Rev E 55: 1779-1782.
- SMITH C. U. M., *Elements of Molecular Neurobiology*, John Wiley & Sons Ltd 2002.
- STENGER D. A., HICKMAN J. J., BATEMAN K. E., RAVENSCROFT M. S., MA W., PANCRAZIO J. J., SHAFFER K., SCHAFFNER A. E., CRIBBS D. H., COTMAN C. W., *Microlithographic determination of axonal/dendritic polarity in cultured hippocampal neurons*, J. Neurosci Meth., vol. 82, pp. 167-73, 1998.
- STONE, J. L., BARLOW, W. E. HUMAYUN, M. S., DE JUAN, E. MILAM, A. H. (1992) *Morphometric analysis of macular photoreceptors and ganglion cells in retinas with retinitis pigmentosa*, Arch. Ophthalmol., 110, 1634-1639.
- STOPPINI L., DUPORI S., CORREGES P., *New extracellular multirecording System for electrophysiological studies: Application to hippocampal organotypic cultures*, J. Neurosci Meth., vol. 72, pp. 23-33, 1997.
- SÜDHOF T.C., STARKE K. (Editors), *Pharmacology of Neurotransmitter Release*, Springer-Verlag Berlin Heidelberg 2008.
- SYED NI, WINLOW W (1989) *Morphology and electrophysiology of neurons innervating the ciliated locomotor epithelium in Lymnaea stagnali*. Comp Biochem Physiol A 93: 633-644
- SYED NI, BULLOCH AGM, LUKOWIAK K (1990) *In vitro reconstruction of the respiratory central pattern generator of the mollusk Lymnaea*. Science 250: 282-285.
- TEODORESCU H-N, KANDEL A., JALN.: "Fuzzy and Neuro-Fuzzy Systems in Medicine", CRC Press LLC, ed. 1999.
- THIELS E., BARRIONUEVO G., BERGER T. W., *Induction of long-term depression in hippocampus in vivo requires postsynaptic inhibition*, J. Neurophys.. vol. 72. pp. 3009-3016, 1994.
- TSAI R. H., SHEU B. J., BERGER T. W., *VLSI design for real-time signal processing based on biologically realistic neural models*, in Proc. IEEE Int. Conf. Neural Networks, vol. 2, 1996, pp. 676-681.
- , *Design of a programmable pulse-coded neural processor for the hippocampus*, in Proc. IEEE Int. Conf. Neural Networks, vol. 1, 1998, pp.784-789.

- TSAI R. H., SHEU B. J., BERGER T. W., *A VLSI neural network processor based on a model of the hippocampus*, Analog Integr. Circuits Signal Process, vol. 15, pp. 201-213, 1998.
- TSAI R. H., TAI J. C., SHEU B. J., TANGUAY A. R. Jr, BERGER T. W., *Design of a scalable and programmable hippocampal neural network multi-chip module*, Soc. Neurosci Abstr., vol. 25, p. 902, 1999.
- VASSANELLI S, FROMHERZ P (1998) *Transistor-records of excitable neurons from rat brain*. Appl Phys A 66: 459-463.
- , (1999) *Transistor probes local K⁺ conductances in the adhesion region of cultured rat hippocampal neurons*. J Neurosci 19: 6767-6773.
- VIZI E. S. (Editor), *Handbook of Neurochemistry and Molecular Neurobiology-Neurotransmitter Systems*, Springer Science and Business Media, LLC. 2008.
- WEIS R, FROMHERZ P (1997) *Frequency dependent signal transfer in neuron-transistors*. Phys Rev E 55: 877-889.
- YONGLING XIE, YIYI WANG, TAO ZHANG, Guogang Ren and ZHUO YANG, *Effects of nanoparticle zinc oxide on spatial cognition and synaptic plasticity in mice with depressive-like behaviors*, Journal of Biomedical Science, 2012.
- WÄSSLE, H., BOYCOU, B. B. (1991) *Functional architecture of the mammalian retina*. Physiol. Rev. 71, 447 - 480.
- WEIS R, MULLER B, FROMHERZ P (1996) *Neuron adhesion on a silicon chip probed by an array of field-effect transistors*. Phys Rev Lett 76: 327-330.
- WHEELER B. C., NOVAK J. L., *Current source density estimation using microelectrode array data from the hippocampal slice preparation*, IEEE Trans. Biomed. Eng., vol. 33, pp. 1204-1212, 1986.
- WINLOW W, HOLDEN AV, HAYDON PG (1982) *Characterization of Lymnaea neurons by determination of action potential trajectories*. J Exp Biol 99: 207-221.
- WIENER N., *The Human Use of Human Beings* (1950).
- , *Nonlinear Problems in Random Theory* (1958).
- , *Differential space, Quantum Systems and prediction, with A. Siegel, B. Rankin, W.T. Martin*, the MIT Press, Cambridge (Mass.) 1966.
- , *Invention: The Care and Feeding of Ideas*. MIT Press (1993).
- WONG RG, HADIEY RD, KATER SB, HAUSER GC (1981) *Neurite outgrowth in molluscan organ and cell cultures: the role of conditioning factor(s)*. J Neurosci 1: 1008-1021.
- WONG RG, MARTEL EC, KATER SB (1983) *Conditioning factor(s) produced by several molluscan species promote neurite out-growth in cell culture*. J Exp Biol 105: 389-393.
- WONG RG, BARKER DL, KATER SB, BODNAR DA (1984) *Nerve growth-promoting factor produced in culture media conditioned by specific CNS tissues of the snail Helisoma*. Brain Res 292: 81-91.
- XIE X., BERGER T. W., BARRIONUEVO G., *Isolated NMDA receptor-mediated synaptic responses express both LTP and LTD*, J. Neurophys.. vol. 67, pp. 1009-1013, 1992.
- XIE X., LIAW J. S., BAUDRY M., BERGER T. W., *Novel expression mechanism for synaptic potentiation: Alignment of presynaptic release site and postsynaptic receptor*, Proc. Nat. Acad. Sci., vol. 94, pp. 6983-6988, 1997.

- ERRIGO D.P.**, *Artificial or bionic neural structure formed by modular electronic elements for generating and/or re-establishing correct communication between components of a biological structure, in particular a nervous System*, European Patent Request n° 04425780.6 (2004, Oct, 15).
- , *Il modulo universale*, Italian Patent Request n° RO2001A000005 (2001, Aug, 02). (Italian language).
- , *The simulation Model of a Complex System: the Neural System*, in G. Mancini and M. Angrisani, *Mapping Systemic Knowledge*, LAP LAMBERT Academic Publishing, Saarbrücken 2014 Pagg.s 259-296.
- , *Sentieri Sistemici*, Loffredo Editore - University Press, Naples 2011, *passim* (Italian language).
- , *Cyberneurophysiology*, 1st ed. NEI Roma 2004, 3rd ed 2008 www.cyberbrain.eu/main_publications, *passim* (Italian language).
- , *Profili di velocità in un plasma termico*, 1st ed. Padova 1970, www.cyberbrain.eu/main_publications, *passim* (Italian language).
- , *Per un sistema neurale*, 1st ed. 2007 www.cyberbrain.eu/other_publications, *passim* (Italian language).
- , *On a new Science Philosophy Method*, New Atlantis 2013/2 Aracne Editrice Rome.
- , *Dynamic High Complex Systems: Science and Conscience*, New Atlantis 2013/2 Aracne Editrice Rome.
- , *Dynamic High Complex Systems - interdisciplinary models*, Nuova Atlantide 2012/2 Aracne Editrice Rome.
- , *The DNA structure of the quantic cat - Meditations on G.J. Chaitin's new book*, Nuova Atlantide 2012/2 Aracne Editrice Rome.
- , *The development of a neural simulation*, Nuova Atlantide 1-2011 Aracne Editrice Rome.
- , *Cerebral simulation*, *Neuromodulation*, Volume 6 Issue 3, Pages 204/206 - July 2003 doi: 10.1046/j.1525-1403.2003.03027_20.x
- , *Towards a new neural transmission bionic structure*, Acta "Stroke Today" - Spoleto, 2003 May 5-8 (Italian language).
- , *Cybernetics and Cerebral Simulation*, *Neuromodulation Conference*, Rome Dec. 2002 (Italian language).
- , *Teoria dei Sistemi*, Summer Scholl, Pescara 2010, www.cyberbrain.eu/other_publications (Italian language).
- , *Elementi della teoria ingenua delle matrici cubiche*, *Ratio Mathematica*, 8 (1994), 9 – 14 (Italian language).
- , *L'irreversibilità del computare*, *Cattolica Mathesis Conference* (1993), Acta Mathesis 1994 (Italian language).
- , *Una specificazione del "De Morgan forte" per la simulazione di un modello comportamentale del "diverso"*, *Rovigo Mathesis Conference*, Acta Mathesis 1994 (Italian language).

- , *Un nuovo modello di trasmissione neurale – 1: le differenze tra il modello tradizionale ed il nuovo modello*, Nuova Atlantide (1997) Suppl. 1, 3 – 9 (Italian language).
- , *Un nuovo modello di trasmissione neurale – 2: Magneto-idro-dinamica di un ipotetico gas di neurotrasmettitori*, Nuova Atlantide (1997) Suppl. 2, 3 – 11] (Italian language).
- , *Un nuovo modello di trasmissione neurale – 3: Per il nuovo modello di trasmissione neurale, parte I°: Ricerca delle frequenze rispettivamente di trasmissione e di ricezione e conseguenze; appendice alla parte I°: Un'unica funzione di distribuzione statistica non classica; parte II°: Ancora sulla teoria delle perturbazioni; parte III°: derivazioni dalle Parti I° e II°*; Nuova Atlantide (1997) Suppl. 3, 3 – 13 (Italian language).
- , *Un nuovo modello di trasmissione neurale – 4: parte IV°: Uno studio su di una frontiera discontinua: Il cosa (ed il come) sembra accadere all'interfaccia tra due sistemi sinaptici in collegamento tramite neurotrasmettitori*, Nuova Atlantide (1997) Suppl. 4, 3 – 10 (Italian language).
- , *Un nuovo modello di trasmissione neurale Un nuovo modello di trasmissione neurale*, Nuova Atlantide (1999) Suppl. 1, 3 – 5 (Italian language).
- , *Un nuovo modello di trasmissione neurale – 6: Modalità di trasferimento in una simulazione neurale: Parte 1°: verifica di massima delle strutture, Parte 2°: l'emisfero destro: il secondo modulo universale e le sue connessioni con il primo*, Nuova Atlantide (2000) Suppl. 1, 3 – 12] (Italian language).
- , *Un nuovo modello di trasmissione neurale – 7: Modalità di trasferimento in una simulazione neurale: Parte 3°: il modulo universale definitivo, Appendice 1°, Appendice 2° alla parte III°: una breve considerazione sulla metrica del micro-universo sinaptico,; appendice 4° alla Parte III°: il Modulo universale che sarà oggetto di brevetto: verifica della struttura*, Nuova Atlantide (2000) Suppl. 2, 3 – 10 (Italian language).
- , *Un nuovo modello di trasmissione neurale – 8: Trasmissione artificiale operata in simulazione cerebrale: paradigmi ed analisi: le implicazioni Bio-Cyborg-sociologiche di un modello di trasmissione neurale*, Nuova Atlantide, (2000) Numero Unico, 3 – 13 (Italian language).
- , *Interazione di raggio laser con campo elettromagnetico ortogonale in regime di variabilità - premessa - le basi fisiche – I° Cap. 1 un'ipotesi su particelle elementari, atomiche e nucleari*, Nuova Atlantide, (1996-'00), *passim*, 3 – 6 (Italian language).
- , *Interazione di raggio laser con campo elettromagnetico ortogonale in regime di variabilità - premessa - le basi fisiche – I° Cap. 2 " In uno spazio definito come bosonico-fermionico è possibile isolare un pseudo-volume elementare in cui la misura della probabilità di un evento, in termini di coordinate canoniche, sia esprimibile come funzione della metrica e/o del tempo, parti I°, II°, III°, IV°*, Nuova Atlantide, (1995-'00), *passim*, 3 – 23 (Italian language).
- , *Interazione di raggio laser con campo elettromagnetico ortogonale in regime di variabilità - premessa - le basi fisiche – I° Cap. 3 Sulla trasformazione di coordinate, appendice, appendice al Cap. 3: riflessioni sull'equazione (13)*, Nuova Atlantide (1996-'00), *passim*, 3 – 9 (Italian language).

—, *Interazione di raggio laser con campo elettromagnetico ortogonale in regime di variabilità - premessa - le basi fisiche – II°: Cap. 1 Sulla Sin-Gordon ed altro*, Nuova Atlantide (1996-‘00), *passim*, 3 – 8 (Italian language).

—: *Interazione di raggio laser con campo elettromagnetico ortogonale in regime di variabilità - premessa - le basi fisiche – II°: Cap. 2: matrice di spin e carica, Cap. 3 sulle orme di Yukawa*, Nuova Atlantide (1996-‘00), *passim*, 3 – 6 (Italian language).

—, *Interazione di raggio laser con campo elettromagnetico ortogonale in regime di variabilità – Accadimenti fisici*, Nuova Atlantide (1995-‘01), *passim*, 3 – 12 (Italian language).

—, *Interazione di raggio laser con campo elettromagnetico ortogonale in regime di variabilità – ancora sulle orme di Yukawa*, Nuova Atlantide (1996-‘01), *passim*, 3 – 11 (Italian language).