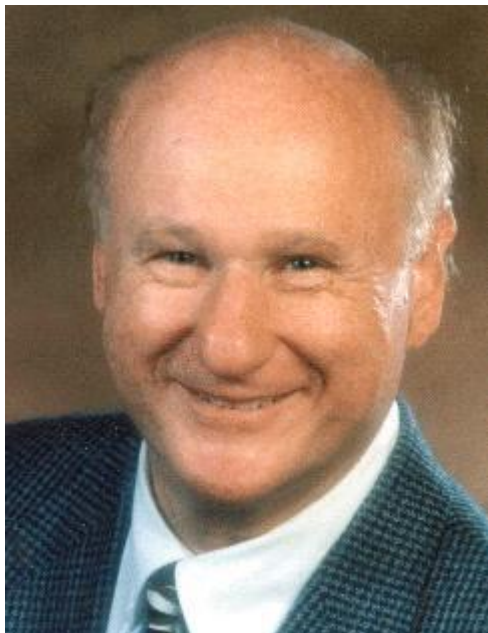


András J. Pellionisz

Curriculum Vitae



Contact

- [holgentsch at gmail dot com](mailto:holgentsch@comcast.net), [andras at pellionisz dot com](mailto:andras@pellionisz.com)
- +1 (408) 891-718seven, +1 (408) 732-931nine in USA, California, Silicon Valley

Citizenship

- Hungarian (native) - USA (naturalized), dual citizen

Undergraduate Education

- Budapest Technical School, Hungary, 1962-1966, B.Sc. and M.S. in Computer Engineering

Graduate Degrees

- Ph.D. in Computer Engineering, (Budapest Technical School), Hungary 1967
- Ph.D. in Biology (Hungarian Academy of Sciences, Thesis Adviser Prof. John Szentágothai) 1973
- Ph.D. in Physics (Hungarian Academy of Sciences, Doctor of Physics) 1990

Affiliations

- Hungarian Academy of Sciences, Dept. of Anatomy of Semmelweis University (Dir. John Szentágothai). 1967-1973 (tenured)
- Stanford University, Department of Biology. Post-Doctoral Fellow 1973-1974
- University of Iowa, Department of Biophysics, Post-Doctoral Fellow 1974-1976
- New York University Medical Center, NY, NY. Department of Biophysics, Research Professor 1976-1989
- Visiting Professor of University Medical School of Paris, France 1989
- Visiting Professor, Dept. of Biophysics, Marburg University, Germany 1990
- Senior Research Associate of the US National Academy to NASA Ames Research Center 1990-1994
- Senior Internet Software Architect (Internet Boom; Ernst & Young Inc. companies, Papyrus & Kanisa Inc., Silicon Valley) 1994-1997
- Senior Internet Software Architect (Internet Boom; Fabrik, Inc, Verge, Inc, Mindmaker, Inc. Silicon Valley –1997-2002)

- Founder & CEO of Helixometry, Inc. (Genome Informatics company, Silicon Valley) 2003-2006
- Senior Genome Informatics Engineer (Mitronics, Inc. Silicon Valley arm of parallel computing of Sweeden) 2007
- Founder & CEO of HolGenTech, Inc. (Genome Informatics company, Silicon Valley) 2008-

Decorations

- Senior Distinguished American Scientist – Alexander von Humboldt Prize from Germany 1990
- Pentagonam Prize – Hyderabad, India 2012

Publications

- Accomplishments in Biophysics (Geometrization of Neuroscience, Part I. "**Tensor Network Theory**", Part II. "**FractoGene**") published in peer-reviewed Journals including 22 PUBMED articles, by top Book Publishers (2 MIT Press, 2 Cambridge University Press, 8 Springer Verlag, Oxford University Press, Birkhausen Press, Pergamon Press, Raven Press, etc). Geometrical Unification of Neuroscience and Genomics was published in Springer Textbook, 2013, see full list of over 130 publications and links to full free pdf, <http://www.pellionisz.com> The List of Publications is also found in Appendix of this CV.
- **Breakthrough Publication:** The *Principle of Recursive Genome Function (2008)*, reversing two mistaken axioms of Old School Genomics ("Junk DNA" and "Central Dogma") and thus introducing the class of recursive algorithms by FractoGene recursion "fractal genome grows fractal organisms" [[FULL PUBMED PDF](#)]. Foundations to this breakthrough were laid down by Neural Geometry: Towards a Fractal Model of Neurons (1989, [FULL PDF](#)), and in 2006 Genomics, Morphogenesis and Biophysics: [Triangulation](#) of Purkinje Cell Development, a paper providing experimentally testable and positively tested [predictions](#). Recently, the breakthrough paper of 2008 was put into a [wide perspective of recursive algorithms of genome function](#) (2013)

Citations

- For 3,944 citations, see Google Scholar. This, in the case of a multiple paradigm-shift, using advanced geometry in biology represents wide acceptance. Tensor Network Theory was acknowledged by Germany by the Alexander von Humboldt Award for Senior Distinguished American Scientists. FractoGene was acknowledged by India by the Pentagonam-Prize.

Predictive Mathematical Theory with Independent Experimental Verifications

- **PREDICTIVE SENSORIMOTOR NEURAL NET THEORY WITH INDEPENDENT EXPERIMENTAL VERIFICATION.**
- Tensor Network Theory predicted that the motor activation vectors are maximal NOT in along their own axes. This was experimentally supported by scientists in The Netherlands, see: Gielen, C.C.A.M, Van Zuylen, E.J. (1986) Coordination of Arm Muscles During Flexion and Supination: Application of the Tensor Analysis Approach, [[FULL PAPER REFERENCE PDF](#)] Independent experimental support of TNT] Neuroscience, 17(3) 527- 539
- **FRACTOGENE PRINCIPLE ALSO PROVIDED PREDICTIONS.**
- The fractality of Purkinje neurons and the amount of "Junk DNA" (90+ % of the full genome) correlate. The prediction is the peer-reviewed (PUBMED) publication, the experimental confirmation by independent scientists are in point c) of the header of the article. Simons, M. and Pellionisz, A. (2006 a) Genomics, Morphogenesis and Biophysics: Triangulation of Purkinje Cell Development, The The Cerebellum, 2006; 5(1): 27- 35 [[PUBMED FULL PDF](#)]
- Experimental proof of the fractality of genome was shown by the "cover article" of Science (October 9, 2009) with [Erez Lieberman as first author, senior author Eric Lander](#) (altogether 18 independent authors):

Lifetime Accomplishments

CREATED TWO NEW SCIENCES: Neurophilosophy, Recursive Genome Function (FractoGene)

- **Neurophilosophy**, MIT PRESS, by Churchland, P. (See ample excerpts on Tensor Network Theory), at: Churchland, P. (1986) Neurophilosophy, MIT [[EXTENDED PDF](#)] (Excerpts on Pellionisz' Tensor Network Theory)
- **The Principle of Recursive Genome Function; FractoGene**
First International Symposium to renounce the "Junk DNA" mistaken dogma. Organized by Andras Pellionisz and Andras Falus. See [article](#) in Origo (in the Hungarian language). Acknowledgement by Peers: Alexander von Humboldt Prize from Germany for Senior Distinguished American Scientists (1990), Pentagon Prize from India (2012) 4.2.3.3. Di Leva, A, Grizzi, F, Jelinek H, Pellionisz, AJ, Losa GA (2013) Fractals in the Neurosciences, Part I. General Principles and Basic Neurosciences. Neuroscientist, Dec. 20, PMID 24362815 [[FULL PUBMED PDF](#)] Losa, G., (Switzerland) Pioneer of "Fractals in Biology and Medicine" 4-volume mtg. book acknowledges FractoGene: [The Living Realm Depicted by the Fractal Geometry, Losa G. \(2015\) Open Access Text, Editor-inChief Bianciardi Giorgio](#) Stanford Nobel Laureate Michael Levitt publicly acknowledges Pellionisz' Fractal Approach at Big Data (Stanford, May, 2015)

UTILIZATION OF THEORETICAL BREAKTHROUGHS

- **Sensorimotor coordinator** Patent number: 4450530 Based on the above IP, Pellionisz laid out the blueprint for an artificial (electronic) cerebellum for advanced avionics, Pellionisz, A. J., C. J. Jorgensen and P. J. Werbos (1992) Cerebellar Neurocontroller Project, for Aerospace Applications, in a Civilian Neurocomputing Initiative in the "Decade of the Brain". IJCNN 92, Baltimore, 379-384 NASA implemented within a decade a successful test to "[land an F15 Fighter airplane](#)" (Existence proof for the possibility was proven by one of Israel's best pilot, see [Youtube](#))
- **Utility of genomic fractals** resulting in fractals of organisms Patent number: [8280641 US patent](#) will be in force for most of the upcoming decade. This FractoGene patent combined with Genome Editing patent(s) by others breaks through present impasse of New School Genome Informatics. FractoGene defines the mathematical language and analysis yields Fractal Defects - and they can be edited out by Genome Editing technology

Scientific Schools

SEVENTY-FIVE DIRECT CO-WORKERS FROM SIXTEEN COUNTRIES, FOUR CONTINENTS

NORTH AMERICA

USA (1) Llinas, R. (2) Werbos, P. (3) Anderson, W (4) Rosenfeld, E (5) Tomko, D. (6) Jorgensen, C. (7) Werbos, P. (8) Ramos, C. (9) Bloedel, J, (10) Peterson, B. (11) Baker, J. (12) Tillery, S (13) Wickland, C. (14) Ostriker, G. (15) Soechting, J (16) Simpson, J. (17) Georgopoulos, A. (18) Perkel, D. (19) McCollum, G. (20) Malinow, R. (21) Shapshak, P, (22) Chiappelli, F, (23) Commins, D, (24) Singer E, (25) Levine, A, (26) Somboonwit, (27) Minagar, A (28) Oluwadara, O, (29) Prolo, P. (30) Hunt, C. (31) Minegar, A. (32) Sakharkar, K (33) Graham, R. (34) Pellionisz, P.

CANADA (35) Di Ieva, A.

EUROPE

HUNGARY (36) Vizi, E. (37) Szentágothai, J. (38) Hámori, J. (39) Laczko, J. (40) Pintér, E. (41) Lissák, K. (42) Kanyár, B. (43) Falus, A. (44) Radvanyi, L. (45) Molnar, M. (46) Szell, M.

FRANCE (47) LeGoff, B (48) Berthoz, A. (49) Benhamou, M. (50) Liverneux, P. (51) Lestienne, F. (52) Strauss, F. (53) Perez, J.

UK (54) Bollobas, B.

THE NETHERLANDS (55) Gielen, C. (56) Zuylen, G. (57) Ruis, J.

GERMANY (58) Graf, W. (59) Daunicht, W. (60) Eckmiller, R.

AUSTRIA (61) Battistutti, W

DENMARK (62) Cotterill, R.

ITALY (63) Giordano (64) Grizzi, F. (65) Fiori, S.

CROATIA (66) Ugarkovic, D.

SWITZERLAND (67) Losa, G.

ASIA

CHINA (68) Xu, L.

INDIA (69) Roy, S. (70) Ramanujam M V, R. (71) Rajan, E.G.

SINGAPORE (72) Kanguane, P. (73) Schönbach, C

AUSTRALIA

Simons, M. (75) Jelinek, H.

APPENDIX: List of Publications

--- RECURSIVE GENOME FUNCTION: [FractoGene](#)

Pellionisz, A.J., Ramanujam, M.V., Rajan, E.G. (2017) Genome Editing – A Novel Business Opportunity for India as a BRICS Country to Excel in Global Genomics Enterprise. In: Proceedings of ICSCI 2017 Hyderabad, India Conference, pp. 1-3. [[FULL TEXT PDF](#)]

Pellionisz, A.J, Graham R., Pellionisz, P.A., Perez, JC (2013) Recursive Genome Function of the Cerebellum: Geometric Unification of Neuroscience and Genomics. In: Springer Handbook "The Cerebellum" pp. 1381-1423 In: Manto M, F. Gruol, D.L., Schmahmann, J., Koibuchi, N., Rossi, F. (Eds.), Handbook of the Cerebellum and Cerebellar Disorders, Submitted October 20, Accepted November 1, 2011. DOI 10.1007/978-94-007-1333-8_61, Springer Science Business Media Dordrecht 2013 [[FULL PDF](#)] see [Abstract, References and Supplementary Material]

Di Leva, A, Grizzi, F, Jelinek H, Pellionisz, AJ, Losa GA (2013) Fractals in the Neurosciences, Part I. General Principles and Basic Neurosciences. Neuroscientist, Dec. 20, PMID 24362815 (Epub ahead of print) [[ABSTRACT FULL PUBMED PDF](#)]

Pellionisz, A.J, The Decade of FractoGene: From Discovery to Utility; Proofs of Concept Open Genome-Based Clinical Applications (2012) International Journal of Systemics, Cybernetics and Informatics, (ISSN 0973-4864) pp. 17- 28 [[FULL PDF OF HYDERABAD DECORATION](#)]

Timeline of A Decade of FractoGene (2002_2012) [[TIMELINE PDF WITH LINKS](#)]

US Patent Office Issues FractoGene Patent to HolGenTech Founder Pellionisz (2012) [[PRESS RELEASE](#)] Utility of genomic fractals resulting in fractals of organisms (2012 October 2) US 8280641 B1 Sole inventor: Andras J. Pellionisz, Assigned to Andras J. Pellionisz (2012) [GOOGLE PATENT, IN FORCE TILL LATE MARCH 2026 AND METHODS IMPROVED AFTER CIP OF 2007, HELD AS TRADE SECRETS,FOREVER] see FractoGene, HolGenTech]

Pellionisz, A. (2009) From the Principle of Recursive Genome Function to Interpretation of HoloGenome Regulation by Personal Genome Computers. Cold Spring Harbor Laboratory ([website](#)); PersonalGenomes meeting of George Church, Sept. 14-17, 2009

Shapshak, P, Chiappelli, F, Commins, D, Singer E, Levine, AJ, Somboonwit, Minagar, A, Pellionisz, A. (2008) Molecular epigenetics, chromatin, and NeuroAIDS/HIV: Translational implications; Bioinformation. 3(1): 53-57 Published online 2008 October 7.[[PUBMED FULL DPF](#)]

Chiappelli F, Shapshak P, Commins D, Singer E, Minagar A, Oluwadara O, Prolo P, Pellionisz AJ. (2008) Molecular epigenetics, chromatin, and NeuroAIDS/HIV: Immunopathological implications. Bioinformation. 3(1):47-52. PMCID: PMC2586137, Epub 2008 Oct 7. Click here to read [[PUBMED ABSTRACT](#), [FULL PDF](#)]

Pellionisz, A. (2008) The Principle of Recursive Genome Function. The Cerebellum (Springer, New York & Heidelberg), Epub ahead of Print DOI 10.1007/s12311-008-9935-y, [SUPPLEMENTARY MATERIAL][[PUBMED FULL PDF](#)]

Simons, M. and Pellionisz, A. (2006 c) Implications of fractal organization of DNA on disease risk genomic mapping and immune function analysis. Proc. of Australasian and Southeast Asian Tissue Typing Association 30th scientific meeting 22-24 November 2006, Chiangmai, Thailand ([Peer-invited and peer-reviewed Keynote lecture](#))

Pellionisz, A. (2006) PostGenetics: Genetics beyond Genes. The journey of discovery of the function of "junk" DNA. Peerinvited and peer-reviewed Keynote lecture at "European Inaugural of the International PostGenetics Society", 12. October, 2006, Budapest, Hungary, a Satellite to the International Congress of Immunogenomics and Immunomics, pp. 219., [BCII2006](#)

Simons, M. and Pellionisz, A. (2006 a) Genomics, Morphogenesis and Biophysics: Triangulation of Purkinje Cell Development, The The Cerebellum, 2006; 5(1): 27-35 [[PUBMED FULL PDF](#)]

Pellionisz, A. (2003) FractoGene Design-Tool for Protein-Based Self-Assembling Nanostructures, Materials and Applications. In: Proceedings of the Symposium "Biological Nanostructures, Materials, and Applications", Invited Lecture, sponsored by the ECS New Technology Subcommittee held at the 204th Meeting of The Electrochemical Society, Orlando, FL ([Peer-invited and peerreviewed Keynote lecture](#))

Pellionisz, A. (2002, Aug. 1.) [FractoGene patent group Intellectual Property](#) filed to USPTO [Priority Date of 8,280,641]

Pellionisz, A. (2002) Morphogenesis of the Central Nervous System: A Third of a Century (1968-2002) to Reveal the Morpho- Genesis of the Brain [[website summary](#)]

[1996-2001] Intellectual Property to NASA, SVNI and Silicon Valley Internet Companies [not in public domain](#)

----- SEED CONCEPT BETWEEN GEOMETRIZATION OF NEUROSCIENCE AND GENOMICS

(111) Pellionisz, A. (1989) Neural Geometry: Towards a Fractal Model of Neurons. In: Models of Brain Function, Ed. by Rodney M.J. Cotterill. Cambridge University Press, pp.453-464 . [[PUBMED FULL PDF](#)] –

--- NEURAL GEOMETRY: [Tensor Network Theory](#)

- (127) Pellionisz, A. (1995) Flight Control by Neural Nets: A Challenge to Government/Industry/Academia. International Conference on Artificial Neural Networks, Paris. (Ed. F. Fogelman). [NASA Test Flight](#)
- (126) Pellionisz, A.J. (1994) From Geometrical Foundations of NN Research to Lead-Roles in Silicon Valley Information Industry in Flight Control and Infohighway Interface. [Invited Lecture at Korean Neural Network Conference, Seoul, Korea](#)
- (125) Andras J. Pellionisz, David L. Tomko and Charles C. Jorgensen (1993) Artificial Cerebellum ACE: Tensor Network Transformer Enabling Virtual Movement in Virtual Environment; Facilitating Teleoperation in Telepresence. [IEEE World Congress on Neurocomputing San Francisco](#)
- (124) Pellionisz, A. J., C. J. Jorgensen and P. J. Werbos (1992) Cerebellar Neurocontroller Project, for Aerospace Applications, in a Civilian Neurocomputing Initiative in the "Decade of the Brain". [IJCNN 92, Baltimore, 379-384.](#)
- (123) Werbos, P. J. and A. J. Pellionisz (1992) Neurocontrol and Neurobiology: New Developments and Connections. IJCNN 1992, Baltimore, 373-378.
- (122) Pellionisz, A. J. and C. Ramos (1993) A Geometrical Approach to the Vestibular Control of Movement and Posture. Natural and Artificial Control of Hearing and Balance, Rheinfelden, Switzerland, J. Allum, eds., Elsevier [[PUBMED FULL PDF](#)]
- (121) Pellionisz, A. J., D. L. Tomko and J. Bloedel R. (1992) Neural Geometry Revealed by Neurocomputer Analysis of Purkinje Cell Responses. Computing by Neural Systems, San Francisco, C. Ploegaert, eds., Kluver, Boston, MA, 1-5.
- (120) Pellionisz, A.J. and Bloedel, J.R. (1992) Geometry Intrinsic to Population Responses of Cerebellar Purkinje Cells as Revealed by Neurocomputer Analysis of Multi-Unit Recordings from Biological Neural Nets. CNS*92 Abstracts.
- (119) Anderson, W., Pellionisz, A., Rosenfeld, E. (1990) Neurocomputing II. Directions of Research. [MIT Press](#) (Second [paperback] Edition 1993)
- (118) Pellionisz, A. (1991) The Geometry of Massively Parallel Neural Interconnectedness in Wired and Wireless Volume Transmission . Ch. 45. In: Volume Transmission in the Brain . Ed. by K.J.Fuxe and L. Agnati, Raven Press, New York, pp. 557- 568
- (117) Pellionisz, A.J. and Bloedel, JR. (1991) Functional geometry of Purkinje cell population responses as revealed by neurocomputer analysis of multi-unit recordings. Soc. Neurosci. Absts. v.21
- (116) Pellionisz, A.J. (1991) Discovery of Neural Geometry and its Utilization in Neurocomputer Theory and Development. In: International Conference on Neural Networks, Helsinki, Finland (Ed. by T.Kohonen)
- (115) Pellionisz, AJ, B.LeGoff, J.Laczko and A. Berthoz. (1991) Multidimensional Geometry Intrinsic to Head Movements around Distributed Centers of Rotation: A Neurocomputer Paradigm. [In: The Head-Neck Sensory-Motor System Oxford Univ. Press. Eds. A. Berthoz, W.Graf and P. Vidal.](#) pp.117-125
- (114) Pellionisz, AJ, Peterson, B.W., Tomko, L.D. (1990) Vestibular Head- Eye Coordination: a Geometrical Sensorimotor Neurocomputer Paradigm. in : Advanced Neurocomputing. Ed. R. Eckmiller, Elsevier, North Holland. pp.126-145.
- (113) Pellionisz, A. (1990) "USA Civilian Neural Network Program" to NASA, NIH, NIMH and NSF (Senior Research Associate of the USA National Academy to NASA) [AVAILABLE ON WEB IN FULL]

- (112) Pellionisz, A. (1989) Tensor Network Model of the [Cerebellum and its Olivary System](#). In: Proc."The Olivocerebellar System in Motor Control" ENA-IBRO Symposium, Torino, Italy. Springer Verlag (P.Strata, ed) pp. 400-424.
- (111) Pellionisz, A. (1989) Neural Geometry: Towards a Fractal Model of Neurons. In: Models of Brain Function, Ed. by Rodney M.J. Cotterill. Cambridge University Press, pp.453-464 [[PUBMED FULL PDF](#)]
- (110) Pellionisz, A (1989) About the Geometry Intrinsic to Neural Nets. International Joint Conference on Neural Nets, Washington, D.C. Vol. I. p. 711-715.
- (109) Pellionisz, A (1989) Fractal Geometry of Purkinje Neurons: Relationships among Metrical and Non-Metrical Neural Geometries. [Soc. Neurosci. Absts.](#) 15 (1) 180.
- (108a) Pellionisz, A. (1989) [Proposal for Centers of Neurophysics](#)
- (108) Pellionisz, A (1989) Brain Geometry: The need of Researching Association of Covariant and Contravariant Coordinates that Organize a Cognitive Space by Relating Multisensory-Multimotor Representations. Proc. of 3rd. IEEE Intern. Conf. on Neuronal Networks, Washington, D.C.
- (107) Peterson, B.W., Pellionisz, A.J., Baker, J.A., Keshner, E.A. (1989) Functional Morphology and Neural Control of Neck Muscles in Mammals. *Am. Zoology*, 29:139-149
- (106) Pellionisz, A. (1988) [Vistas from Tensor Network Theory](#): A Horizon from Reductionalist Neurophilosophy to the Geometry of Multi-Unit Recordings. In: Computer Simulation in Brain Science (ed. by R. Cotterill), Cambridge University Press, pp. 44-73.
- (105) Pellionisz, A., Peterson, BW. (1988) A Tensorial Model of Neck Motor Activation. In: Control of Head Movement (eds. Peterson, BW. and Richmond, F.), Oxford University Press , pp. 178-186. [[PUBMED FULL PDF](#)]
- (104) Pellionisz, A., Peterson, BW. (1988) Theoretical Predictions of Spatial Anisotropy of Acerebellar Dysmetria in Head Movements of Cats. *Soc. Neurosci. Absts.* 14/2: 1239.
- (103) Berthoz, A., Benhamou, M. and Pellionisz, A.J. (1988) Postural Positions Yielding Aligned Eigenvectors of Coordinate Frames Intrinsic to Vestibular and Neck-Neck Muscle Systems in Human. *Soc. Neurosci. Absts.* 14/2: 1235
- (102) Pellionisz, A. (1988) Intelligent Decisions and Dynamic Coordination: Properties of Geometrical Representation by BGeneralized Frames Intrinsic to Neural and Robotic Systems. Proc. of 2nd IEEE Internatl. Conf. on Neuronal Networks, San Diego, Vol. 2:603-610.
- (101) Pellionisz, A. (1988) Coordinated Trajectory Control in Intrinsic Sensorimotor Frames. *Absts.* 1st. Ann. Mtg. Boston, Neural Networks, Suppl: 1:354.
- (100) Pellionisz A. (1988) Sensorimotor Operations: a Ground for the Co-Evolution of Brain Theory with Neurobotics and Neurocomputers. In: Proc. IEEE First Annual International Conference on Neural Networks, San Diego Vol.4:593-600.
- (99) Pellionisz, A. (1988) [Tensorial Aspects of the Multidimensional Massively Parallel Sensorimotor Function of Neuronal Networks](#). In: Progress in Brain Research: Vestibulospinal Control of Posture and Movement. (ed. by O. Pompeiano and J.H.J. Allum) Progress in Brain Research, Elsevier, pp. 341-354.
- (98) Pellionisz, A. (1988) Tensor Geometry: A Language of Brains and Neurocomputers. Generalized Coordinates in Neuroscience and Robotics. In: Neural Computers (NATO Advanced Science Institutes

Series, F (Computers and Systems Sciences Vol. 41) (ed. by R. Eckmiller and C. von Malsburg), Springer Verlag, Berlin pp. 381-391.

(97) Bloedel, J.R., Tillery, S.I. and Pellionisz, A.J. Experimental-Theoretical Analysis of the Intrinsic Geometry of Limb Movements. *Neurosci. Abst.* 14: 952, 1988

(96) Laczkó, J., Pellionisz, A., Jongen, H. and Gielen. C.C.C.M. Computer Modeling of Human Forelimb Muscle Activation in Multidimensional Intrinsic Coordinate Frames. *Soc. Neurosci. Absts.* pp. 14-2:955, 1988

(95) Daunicht, W. & Pellionisz, A. (1987) Spatial arrangement of the Vestibular and the Oculomotor System in the Rat. *Brain Research* 435. pp. 48-56. [[PUBMED FULL PDF](#)]

(94) Pellionisz, A. & Graf, W. (1987) Tensor Network Model of the "Three-Neuron Vestibulo-Ocular Reflex-Arc" in *Cat. J. Theoretical Neurobiology*, (5)127-151.

(93) Pellionisz, A.(1987) Tensor Geometry as the Mathematical Language of Neuronal Networks. *Brain Theory & Foundation for Neurobotics and Neurocomputers. Proc. of IBRO II. World Congress, Neuroscience, Suppl. to Vol 22, p. S101*

(92) Peterson, B.W., Baker, J.F., Pellionisz, A.J. (1987) Multidimensional Analysis of Vestibulo-Ocular and Vestibulo-Collic Reflexes (VOR and VCR). In: *Proceedings of the International Symposium on Basic and Applied Aspects of Vestibular Function, Hong Kong*

(91) Pellionisz, A. (1987) Tensor Geometry: Mathematical Brain Theory for Neurocomputers and Neurobots. In: *Proc. of the Ninth Annual Conference of IEEE Engineering in Medicine and Biology Society, Boston, 87 CH 2513-0, Vol 3. pp. 1368-1369.*

(90) Pellionisz, A. (1987) Multidimensional Geometries Intrinsic to Cognitive CNS Hyperspaces, and their Metaorganization by a Sensorimotor Apparatus. *Soc. Neurosci. Absts.* 13.V.2.pp.1094

(89) Liverneaux, Ph, Pellionisz, A.J., Lestienne, F.G. (1987) Morpho-Anatomy and Muscular Synergy of Sub-occipital Muscles in Macaca Mulatta: Study of Head-Trunk Coordination. *Proc. of IBRO II. World Congress, Neuroscience, Suppl. to Vol.22, p. S847*

(88) Lestienne, F, Liverneaux, Ph. and Pellionisz, A. (1988) Morpho-anatomy of sub-occipital muscles in monkey: a tensor model of the musculo-skeletal head-neck system. *Reunion Commune de la Physiological Society et de l'Association des Physiologistes, France 2 July 1988. Proc. Physiol. Soc. J. Physiol. (Lond) pp.2P*

(87) Laczkó, J., Pellionisz, A.J. Peterson, B.W. and Buchanan, T.S. (1987) Multidimensional Sensorimotor "Patterns" Arising from a Graphics-Based Tensorial Model of the Neck-Motor System. [Soc. Neurosci. Absts.](#) 13., V.1. p. 372.

(86) Lestienne, F, Liverneaux, Ph., Pellionisz, A. (1987) Role of the Superficial and Deep Neck Muscles in the Control of Monkey Head Movement: Application of the Tensor Analysis Approach. *Soc. Neurosci. Absts.* 13. V.1. p.372.

(85) Lestienne, F, Liverneaux, Ph., Laczkó, J. and Pellionisz, A. (1987) Tensor Model of the Musculo-Skeletal Head-Neck System of the Monkey. In: *Proc. of the II. World Congress of IBRO, Budapest*

(84) Pellionisz, A. (1987) Koordináció: Túlhatározott Központi Idegrendszeri Koordinátarendszerek Vektor-Mátrix Leírása és Tenzor Megoldása a Moore-Penrose Generalizált Inverz Segítségével. *Fizikai Szemle, Budapest*

- (83) Pellionisz, A. (1987) Tensor Network Theory of the Central Nervous System. [Encyclopaedia of Neuroscience](#) (ed. G. Adelman), Birkhauser, p. 1196-1198.
- (82) Pellionisz, A. (1987) Modeling and Theory of Neurons and Network Functions, In: Proc. of the AAAS , p. 17.
- (81) Pellionisz, A. (1986) Tensor Network Theory of the Central Nervous System and Sensorimotor Modeling. In: Brain Theory (eds. Palm G., & Aertsen, A.), Springer Verlag, Berlin-Heidelberg-New York, pp. 121-145
- (80) Pellionisz, A. (1986) [David Marr's Theory of the Cerebellar Cortex](#): A Model in Brain Theory for the "Galilean Combination of Simplification, Unification and Mathematization". In: Brain Theory (eds. Palm G., & Aertsen, A.), Springer Verlag, Berlin-Heidelberg- New York, pp. 253-257
- (79) Pellionisz, A. (1986) Old Dogmas & New Axioms in Brain Theory. Commentary to "Cortical Connections and Parallel Processing: Structure & Function: by D.H. Ballard". Behavioral and Brain Sciences, 9. pp. 103-104
- (78) Pellionisz, A.J., Soechting, JF, Gielen, CCAM, Simpson, JI., Peterson, BW, Georgopoulos, AP. (1986) Workshop: Multidimensional Analyses of Sensorimotor Systems. Soc. Neurosci. Absts. 12, p. 1
- (77) Peterson, BW. & Pellionisz, AJ. (1986) A Tensorial Model of the Kinematics of Head Movements in the Cat. Soc. Neurosci. Absts. 12, p. 684
- (76) Pellionisz, A. (1986) Tensorial Relationship Found for Structural and Functional Reference Frames of Brain Function: Saccade Neurons in Monkey Utilize Frames Composed of the Eigenvectors of the Frame of Extraocular Muscles. Soc. Neurosci. Absts. 12, p. 1186
- (75) Daunicht, W. & Pellionisz, A. (1986) Coordinates Intrinsic to the Semicircular Canals and the Extraocular Muscles in the Rat. Soc. [Neurosci. Absts.](#) 12, p. 1089
- (74) Pellionisz, A. (1986) Tensor Model of Gaze. In: Proc. "[Developments in Oculomotor Research](#)" Gleneden Beach, Oregon, p. 52
- (73) Pellionisz, A. (1986) Tensor Network Theory and its Application in Computer Modeling of the Metaorganization of Sensorimotor Hierarchies of Gaze. In: Proc. "[Neuronal Networks for Computing](#)". AIP 151, New York: American Institute of Physics. pp.339-344.
- (72) Daunicht, W. & Pellionisz, A. (1986) Physical Arrangement of Extraocular Muscles in the Rat. [Proc. of European Neuroscience Association](#)
- (71) Pellionisz, A. (1986) Az Agyműködés Tenzorelmélete (Tensor Theory of Brain Function). Proc. of "The Role of Hungarians in the Scientific and Technological Progress of the World", World Federation of Hungarians & Hungarian Academy of Sciences, Budapest
- (70) Pellionisz, A. (1985) Tensor Theory of Brain Function and its Applications to Sensorimotor Modeling. Brain and Behaviour Report #4. Program abstracts and summary of the meeting on "Activity Patterns of Neural Populations", (eds. Johannesma, PIM., Eggermont, JJ., van Gisbergen, JAM.), Brain and Behaviour Society, Nijmegen, The Netherlands
- (69) Pellionisz, A. (1985) Tensor Theory of Brain Function & its Applications to Sensorimotor Modeling. In: Proceedings of Vth Internatl. Symp. on Motor Control. 85, Varna. p. 104
- (68) Pellionisz, A. (1985) Mathematical Theory and Computer Modeling of Brain Function. The NYU Physician, New York Univ. Press. 41 (2) pp. 23-45

- (67) Pellionisz, A. (1985) Robotics Connected to Neurobiology by Tensor Theory of Brain Function. [Proc.IEEE International Conf. on Systems, Man & Cybernetics](#). pp. 411-414
- (66) Pellionisz, A. & Peterson, B.W. (1985) Tensor Models of Primary Sensorimotor Systems, such as the Vestibulo-Collic Reflex (VCR) and the Metaorganization of Hierarchically Connected Networks. *Soc. Neurosci. Absts.* 11. p 83 and Neck-Motor Control Systems. In: Proceedings of Annual Conference on Engineering in Medicine & Biology
- (65) Peterson, B.W., Baker, J., Wickland, C. & Pellionisz, A. (1985) Relation Between Neck Muscle Pulling Directions and Activity by the VCR: Experimental Test of a Tensor Model. *Soc. Neurosci. Absts.* 11. p. 83
- (64) Peterson, B.W., Baker, J., Wickland, C., & Pellionisz, A. (1985) Sensorimotor Transformation in Oculomotor
- (63) Graf, W., & Pellionisz, A. (1985) Morphology and a Tensor Network Model of the Three-Neuron Vestibulo-Ocular Reflex Arc in Cat. *Soc. Neurosci. Abst.* 11. p. 1041
- (62) Pellionisz, A. (1985) Tensorial Aspects of the Multidimensional Approach to the Vestibulo-Oculomotor Reflex and Gaze. In: Reviews of Oculomotor Research. I. Adaptive Mechanisms in Gaze Control. (ed. by A. Berthoz and G. Melvill-Jones). Elsevier, Amsterdam, pp. 281-296 [\[PUBMED FULL PDF\]](#)
- (61) Pellionisz, A. (1985) Tensorial Brain Theory in Cerebellar Modeling. In: Cerebellar Functions (ed. Bloedel, J., Dichgans, J. & Precht, W.), Springer, Heidelberg, pp. 201-229
- (60) Llinás, R. & Pellionisz, A. (1985) Cerebellar Function and the Adaptive Feature of the Central Nervous System. In: Reviews of Oculomotor Research. I. Adaptive Mechanisms in Gaze Control. (ed. by A. Berthoz and G. Melvill-Jones). Elsevier, Amsterdam, pp. 223-232
- (59) Ostriker, G., Llinás, R. & Pellionisz, A. (1985) Tensorial Computer Model of Gaze. Oculomotor Activity is Expressed with Natural Non-Orthogonal Coordinates. *Neuroscience.* 14, pp. 483-500 [\[PUBMED FULL PDF\]](#)
- (58) Pellionisz, A. & Llinás, R. (1985) Tensor Network Theory of the Metaorganization of Functional Geometries in the CNS. *Neuroscience*, 16, pp. 245-274 [\[PUBMED FULL PDF\]](#)
- (57) Ostriker, G., Pellionisz, A. & Llinás, R. (1984) Tensorial Computer Movie Display of the Metaorganization of Oculomotor Metric Network. *Soc. Neurosci. Absts.* 10, p. 162
- (56) Pellionisz, A. (1984) Tensorial Computer Movie of the Genesis & Modification of Cerebellar Networks as Dyadic Expansions of the Eigenvectors Stored in the Inferior Olive. [Soc. Neurosci. Absts.](#) 10, p. 540
- (55) Simpson, J.I. & Pellionisz, A. (1984) The Vestibulo-Ocular Reflex in Rabbit as Interpreted Using the Moore-Penrose Generalized Inverse Transformation of Intrinsic Coordinates. [Soc. Neurosci. Absts.](#) 10, p. 909
- (54) Llinás, R. & Pellionisz, A. (1984) La Mente in Quanto Proprieta Tensoriale dei Circuiti Cerebrali. In: Livelli di Realta, (ed. Palmarini, M.P.), Feltrinelli, Italy, pp. 191-198
- (53) Pellionisz, A. (1984) Coordination: A Vector-Matrix Description of Transformations of Overcomplete CNS Coordinates and a Tensorial Solution Using the Moore-Penrose Generalized Inverse. *J. Theoret. Biol.* 110, pp. 353-375 [\[PUBMED FULL PDF\]](#)
- (52) Pellionisz, A., Ostriker, G. & Llinás, R. (1983) Generation and Modification of Neuronal Networks Acting as Metric Tensors: A Computer Demonstration of the Process of Organizing Sensorimotor Transformations. [Soc. Neurosci. Absts.](#) 9, p. 310

- (51) Pellionisz, A. (1983) Brain Theory: Connecting Neurobiology to Robotics. Tensor Analysis: Utilizing Intrinsic Coordinates to Describe, Understand and Engineer Functional Geometries to Intelligent Organisms. [J. Theoret. Neurobiol.](#) 2(3), pp. 185-211
- (50) Pellionisz, A. (1983) Sensorimotor Transformations of Natural Coordinates via Neuronal Networks: [Conceptual and Formal Unification of Cerebellar and Tectal Models](#). II. Workshop on Visuomotor Coordination in Frog and Toad. Models and Experiments. (org. by R. Lara & M. Arbib, Mexico City, 1982). COINS Techn. Report 83-19 Univ. of Massachusetts, Amherst, MA, pp. 1-20
- (49) McCollum, G., Pellionisz, A. & Llinás, R. (1983) Tensorial [Approach to Color Vision](#). [J. Theoret. Neurobiol.](#) 2(1), pp. 23-28
- (49a) Pellionisz, A., & Llinás, R. (1983) Metaorganization of Functional Geometries in the Brain: Genesis and Modification of Cerebellar and Sensorimotor Metric Tensors. [Soc. Neurosci. Absts.](#) 9.
- (48) Pellionisz, A. & Llinás, R. (1982) Tensor Theory of Brain Function. The Cerebellum as a Space-Time Metric. Chapter 23. In: Competition and Cooperation in Neural Nets. Proceedings of the US-Japan Joint Seminar, held at Kyoto, Japan (ed. by S. Amari and MA Arbib), [Lecture Notes in Biomathematics #45](#) (managing ed. Levin, S), Springer Verlag, Berlin-Heidelberg-New York, pp. 394-417.
- (47) Pellionisz, A. & Llinás, R. (1982) Space-Time Representation in the Brain. The Cerebellum as a Predictive Space-Time Metric Tensor. [Neuroscience](#), 7, pp. 2949-2970 [[PUBMED FULL PDF](#)]
- (47b) [Brain Builders](#) (1982) Science Digest
- (46) Ostriker, G., Pellionisz, A. & Llinás, R. (1982) Tensor Network Theory Applied to the Oculomotor System. CNS Activity Expressed with Natural Non-Orthogonal Coordinates. [Soc. Neurosci. Absts.](#) 8, p. 155
- (45) Malinow, R., Pellionisz, A. & Llinás, R (1982) Tensor Network Theory Providing a Paradigm for Motor Control of Posture and Movement in Multilegged Systems. [Soc. Neurosci. Absts.](#) 8, p. 283
- (43) Pellionisz, A & Llinás, R (1981) Genesis and Modification of the Geometry of CNS Hyperspace. Cerebellar Space-Time Metric Tensor and "Motor Learning". [Soc. Neurosci. Absts.](#) 7, p. 641.
- (43) Pellionisz, A. & Llinás, R. (1980) Tensorial Representation of Space-Time in CNS: Sensory-Motor Coordination via Distributed Cerebellar Spacetime Metric. [Soc. Neurosci. Absts.](#) 6, p. 510.
- (42) Pellionisz, A. & Llinás, R. (1980) Tensorial Approach to the Geometry of Brain Function: Cerebellar Coordination via Metric Tensor. [Neuroscience](#), 5, p. 1125-1136 [[PUBMED FULL PDF](#)]
- (41) Pellionisz, A. & Llinás R. (1979) Cerebellar Coordination: Covariant Analysis and Contravariant Synthesis via Metric Tensor. A Tensorial Approach to the Geometry of Brain Function. [Soc. Neurosci. Absts.](#) 5, p. 105
- (40) Pellionisz, A. & Llinás R. (1979) A Note on a General Approach to the Problem of Distributed Brain Function. Matrix and Tensor Quarterly, [The Journal of the Tensor & Matrix Society of Great Britain](#). 30, pp. 48-50
- (39) Pellionisz, A. & Llinás R. (1979) The Cerebellum: A Neural System with Parallel Distributed Organization. [AAAS Absts.](#), Washington, DC., p. 54
- (38) Pellionisz, A. & Llinás, R. (1979) Brain Modeling by Tensor Network Theory and Computer Simulation. The Cerebellum: Distributed Processor for Predictive Coordination. [Neuroscience](#), 4, pp. 323-348 [[PUBMED FULL PDF](#)]

- (37) Pellionisz, A. (1979) Modeling of Neurons and Neuronal Networks. In: [The Neurosciences: IVth Study Program](#) (eds: Schmitt, FO. & Worden, FG.) MIT Press, Boston, MA, pp. 525-546
- (36) Pellionisz, A. (1979) Cerebellar Control Theory. In: Recent Developments of Neurobiology in Hungary, VIII. (ed. by Lissák, K.) Akadémiai Kiadó, Budapest pp. 211-243
- (35) Pellionisz, A. & Llinás, R. (1978) A Formal Theory for Cerebellar Function: The Predictive Distributed Property of the Cortico- Nuclear Cerebellar System as Described by Tensor Network Theory and Computer Simulation. [Soc. Neurosci. Absts.](#) 4, p. 68
- (34) Pellionisz, A. (1978) Synthesis of Fragmented Data on Neuronal Systems: A Computer Model of Cerebellum. In: Progress in Cybernetics and System Research. Vol. III. (ed. by Trappl, R., Klir, G.J. & Ricciardi, L.), John Wiley & Sons, New York, NY, pp. 411-427 [free full text .pdf]
- (33) Pellionisz, A. & Llinás, R. (1977) Analysis of Anuran Vestibulo-Cerebellar Control by Computer Modeling. [Soc. Neurosci. Absts.](#) 3, p. 60
- (32) Pellionisz, A. & Llinás, R. (1977) Computer Model of Cerebellar Purkinje Cells. Neuroscience, 2, pp. 37-48 [[PUBMED FULL PDF](#)]
- (31) Pellionisz, A., Llinás, R. & Perkel, DH. (1977) Computer Model of the Cerebellar Cortex of the Frog. Neuroscience, 2, p. 19-35 [[PUBMED FULL PDF](#)]
- (30) Pellionisz, A. (1977) The Cerebellar Cortex as an Array of Individually Tuned Purkinje Cells Providing an Overall "Dynamic Cushioning" of Jerky Motor Commands: Demonstration of a New Concept. In: Proceedings of the Symposium "[Neuron Concept Today](#)", Tihany. (eds. Hámori, J., Vizi, E.Sz. & Szentágothai, J.), Pergamon / Akadémiai Kiadó, Budapest, p. 281
- (29) Pellionisz, A. & Llinás, R. (1977) Analysis of Spatial Distribution of Purkinje Cells with Individual Dynamisms Activated by Vestibular Input: A Computer Simulation Study. In: Proceedings of the Symposium "[Neuron Concept Today](#)", Tihany. (eds. Hámori, J., Vizi, E.Sz. & Szentágothai, J.), Pergamon / Akadémiai Kiadó, Budapest, p. 282
- (28) Pellionisz, A. & Llinás, R. (1977) Analysis of Simple and Complex Spike Generator Mechanism of Dendritic Trees: A Computer Model of Purkinje Cell. In: Proceedings of the Symposium "Neuron Concept Today", Tihany. (eds. Hámori, J., Vizi E.Sz., & Szentágothai J.), Pergamon / Akadémiai Kiadó, Budapest, pp. 195-202
- (27) Pellionisz, A., Llinás, R. & Perkel, DH. (1977) Systematic Method for the Interpretation of Experimental Data within a Holistic Neuronal Circuitry: A Computer Model of the Cerebellum of Frog. In: Proceedings of the Symposium "Neuron Concept Today" , Tihany. (eds. Hámori, J., Vizi E.Sz., & Szentágothai, J.), Pergamon / Akadémiai Kiadó Budapest p. 276
- (26) Pellionisz, A. (1976) Proposal for Shaping the Dynamism of Purkinje Cells by Climbing Fiber Activation. Brain Theory Newsletter, 2, pp. 2-6
- (25) Pellionisz, A. & Llinás, R. (1976) Multikompartmentális Hodgkin-Huxley Kábelmodell a Purkinje Sejt Kúszórostjának Analízisére. Magyar Élettani Társaság 15. Vándorgyűlésének Elődáskivonatai (Multicompartmental Hodgkin-Huxley Cable Model for the Analysis of the Climbing Fiber Response of Purkinje Cells. In: Proceedings of the 15th Annual Convention of the Society of Hungarian Physiologists.)
- (24) Pellionisz, A. (1976) Gipotese Plastichnosti Dinamizma Kletok Purkinje na Mozheckovuyu Sistemu Koordinacii Dvizheniy. (A Hypothesis for the Plasticity of Purkinje Cells in the Cerebellar System for Coordination of Movements) In: Proceedings of IXth Symposium of Intercosmos, Budapest, p. 26.

- (23) Pellionisz, A. (1976) Proposal on System- and Purkinje Cell Levels for the Function of Cerebellum in Motor Control. Proceedings of the IIIrd Internatl. IUPS Symposium on Motor Control , Varna, p. 53
- (22) Pellionisz, A. & Llinás, R. (1975) Simple and Complex Spike Generation in a Computer Model of Cerebellar Purkinje Cells. Soc. Neurosci. Absts, 1, p. 319.
- (21) Pellionisz, A. (1974) Számítógépes Szimulációs Modellezés: A Kisagykéreg Neuronhálózatának Szimulációja. (Computer Simulation Modeling: Simulation of Cerebellar Neuronal Networks. Orvos és Technika, 2, pp. 33-47
- (20) Pellionisz, A. (1974) Számítógépes Szimulációs Modellezés: A Kisagykéreg Neuronhálózatának Szimulációja. In: A Számítógépek és Orvosbiológiai Alkalmazásuk. (Computer Simulation Modeling: Simulation of Cerebellar Neuronal Networks. In: Computers and their Use in Medical Biology), (Ed. by Fedina, L.), Semmelweis Orvostudományi Egyetem, Budapest, pp. 198-212
- (19) Pellionisz, A. & Szentágothai, J. (1974) Dynamic Single Unit Simulation of a Realistic Cerebellar Network Model. II. Purkinje Cell Activity within the Basic Circuit and Modified by Inhibitory Systems. Brain Research, 68, pp. 19-40 [\[PUBMED FULL PDF\]](#)
- (18) Pellionisz, A. (1973) Kisagykérgi Ideghálózatok Strukturo-Funkcionális Elemzése a Számítógépes Szimuláció Módszerével. Kandidátusi Értekezés. (Structuro-Functional Analysis of Cerebellar Neuronal Networks by the Use of Computer Simulation Methods., Ph.D. Thesis, Advisor: J.Szentágothai), Hungarian Academy of Sciences, Budapest, pp. 1-107
- (17) Pellionisz, A. (1973) A számítógépek és orvos-biológiai alkalmazásuk. Biológiai rendszerek szimulációja. Orvos és Technika, pp.22-38
- (16) Szentágothai, J. & Pellionisz, A. (1973) A Quantitative Approach to Cerebellar Cortex Histology and its Significance for Computer Studies of the Cerebellar Neuron Network. Proceedings of the IVth Internatl. Conference: de la Physique Theorique a la Biologie, Versailles, France
- (15) Pellionisz, A., Palkovits, M., Hámori, J. Pintér, E. & Szentágothai, J. (1973) Quantitative Comparison of the Cerebellar Synaptic Organization of Immobilized and Normal Kittens. In: International Union for Pure & Applied Biophysics: IVth International Biophysics Congress Symposium Papers 3, Puschino, pp. 381-384
- (14) Pellionisz, A. & Szentágothai, J. (1973) Dynamic Single Unit Simulation of a Realistic Cerebellar Network Model. Brain Research, 49 (1), pp. 83-99 see [\[PUBMED FULL PDF\]](#)
- (13) Pellionisz, A. & Szentágothai, J. (1973) Computer Simulation of the Cerebellar Neuronal Network: Cinematized Cerebellar Activity Model. In: [International Union for Pure and Applied Biophysics: IVth International Biophysics Congress](#). Symposium Papers. 4 (1), Puschino, pp. 61-62
- (12) Pellionisz, A. (1972) Computer Simulation of the Cerebellar Cortex. Acta Cybernetica, 1, p. 287
- (11) Pellionisz, A. (1972) Számítógéppel Készült Szimulációs Film Kisagykérgi Neuronhálózatok Működésének Modellezésére. In: Számítástechnikai és Kibernetikai Módszerek Alkalmazása az Orvostudományban és Biológiában c. III. Kollokvium Kiadványa. (Computerized Movie Display for Simulation of Neuronal Circuits of Cerebellum. In: Proceedings of the IIIrd Colloquium on Computers and Cybernetics in Biology and Medicine), Szeged, pp. 15-23
- (10) Pellionisz, A. (1972) Modelirovanie Predvaritelnoj Obrabotki Nervnoj Informacii Postupajuschei v Koru Mozecka s Pomoschu Vucislitelnih Mashin. (Modeling of the Processing of Information Arriving at the Cerebellar Cortex by Use of Digital Computer). Acta Cybernetica, 1, p. 280

- (9) Pellionisz, A. (1972) Computer Simulation of the Information Preprocessing in the Input of the Cerebellar Cortex. [Acta Cybernetica](#) 1, pp. 157-169
- (8) Pellionisz, A. (1971) Számítógépek az Orvosbiológiai Kutatásban. In: Számítógép Alkalmazási Területek és Lehetőségek az Orvostudományban (ed. by B. Kanyár) (Computers in Biomedical Research. In: Fields and Possibilities for Use of Computers in Medicine). Semmelweis Orvostudományi Egyetem, Budapest, pp. 84-108
- (7) Pellionisz, A. (1971) A Kisagykéreg Működésének Számítógépes Szimulációja. In: Magyar Anatómusok, Hisztológusok és Embriológusok Társasága Kongresszusának Kiadványa (Computer Simulation of the Cerebellar Cortex. In: Proceedings of the Congress of Hungarian Anatomists, Histologists and Embryologists). Pécs, p. 26
- (6) Pellionisz, A. (1971) A Kisagykéreg Működésének Számítógépes Szimulációja. In: Számítástechnikai és Kibernetikai Módszerek Alkalmazása az Orvostudományban és Biológiában c. III. Kollokvium Kiadványa. (Computer Model of the Cerebellar Neuronal Network. In: Proceedings of the IIIrd Colloquium on Computers and Cybernetics in Biology and Medicine), Szeged, pp. 63-78
- (5) Szentágothai, J. & Pellionisz, A. (1971) The Neuronal Network of the Cerebellum and Attempt at its Modeling by Computer Simulation. In: [Proceedings of the First European Biophysics Congress](#), Vienna, 5, Verlag der Wiener Med. Acad., Vienna, Austria, p. 291
- (4) Pellionisz, A. (1970) Modelirovanie Neironuh Shetej Mozhechka pri Ispholzovanii Vicislitelnih Mashini. (Computer Modeling of Cerebellar Neuronal Nets), In: Proceedings of the International Conference on Mathematical Modeling, Varna
- (3) Pellionisz, A. (1970) Computer Simulation of the Pattern Transfer of Large Cerebellar Neuronal Fields. *Acta Biochim. Biophys. Acad. Sci. Hung.* 5, pp. 71-79. [[PUBMED FULL PDF](#)]
- (2) Pellionisz, A. (1968) Transfer Function of a Geometrical Neuronal Configuration of the Cerebellar Granular Layer. In: Proc. of the 5th Conference on Biophysics, *Acta Biochim. Biophys. Acad. Sci. Hung.* 3, p. 462 [[FULL PDF](#)]
- (1) Pellionisz, A. (1967) Neuron Modellezés. Diplomaterv. Budapest Műszaki Egyetem Folyamatszabályozási Tanszék (Neuronal Modeling. MSEE Thesis, Advisor: J. Szentágothai, Dept. of Process Control and Automation, Univ. Technology, Budapest), pp. 1-74