



THE ARCHIVES OF THE
CALIFORNIA INSTITUTE OF TECHNOLOGY

THE PAPERS OF GILBERT D. McCANN

Unit Date: 1963-81
Subject area: Computing, Biology
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THE PAPERS OF GILBERT D. MCCANN

Box 1

1.1-1.2 "Activities of the Biological Systems Laboratory" 1963-64 [2 folders]

PUBLICATION REPRINTS, 1963-81

1.3 1963

75. Computers and Data processing for Nervous System Research by G. D. McCann and C. B. Ray, *IEEE Transactions on BioMedical Electronics*, Vol. BME-10, Number 2, April 1963

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76. Computer Data Processing and Systems Analysis Applied to Research on Visual Perception, G. D. McCann and D. H. Fender, *Natural Theory and Modeling* edited by Richard F. Reiss. Stanford University Press 1964.

77. An Integrated Computer System Concept for Research and Education G. D. McCann, K. 3. Hebert and C. B. Ray, *ICC Bulletin*, Vol. 3, No. 2, April 1964. Also as Computing Technical Report No. 125, March 1964.

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78. Toward a True Understanding of the Nervous Systems G. D. McCann, *Annals of Internal Medicine*, Vol. 62, No. 4, April 1965.

79. Caltech's Developing Computer System, G. D. McCann, *Engineering and Science*, Vol. 28, No. 8, May 1965.

80. Nervous System Research with Computers, G. D. McCann, *Science*, Vol. 148, No. 3677, June 18, 1965.

81. Advanced Shared File System Extends Capabilities of Caltech Computing Center, by G. D. McCann, K. J. Hebert, C.B. Ray, S. H. Caine, *Data Processing Magazine*, September 1965.

82. Caltech Uses 'Total' Approach to Computers, G. D. McCann, *college and University Business*, Vol. 39, No. 4, October 1965.

83. Optomotor Response Studies of Insect Vision, G. D. McCann and G. F. MacGinitie, *Proc. of Roy. Soc.*, 13, Vol. 163, November 1965.

84. Correlation of Retinula Cells and Optokinetic Responses of the Insects *Musca Domestica* and *Calliphora Erythrocephala* G. D. McCann, *Proc. Symposium on Information Processing in Sight Sensory Systems*, November 1965

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89. McCann, G. D. New research techniques for the life sciences, *IBM Journal of Research and Development*, 13(1): 28-35, 1969.

90. McCann, G. D. Computer theory and technology, *Future Goals of Engineering in Biology and Medicine*, ed. by James F. Dickson, III and 3. H. U. Brown. Academic Press, New York & London, 1969.

91. McCann, G. D. and 3. C. Dill. Fundamental properties of intensity, form and motion perception in the visual nervous systems of *Calliphora phaenicia* and *Musca domestica*, *3. Gen. Physiology*, 53(4): 385-413, 1969.

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92a. McCann, G. D. and K. Naka. Application of a large computer system for biological sciences. *Seibutsu-Kagaku*, 21: 182-188, 1969.

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93. McCann, G. D. and S. F. Foster. Binocular interactions of motion detection fibers in the optic lobes of flies. *Kybernetik*, 8: 193-203, 1971.

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94. McCann, G. D. and D. W. Arnett. Spectral and polarization sensitivity of the Dipteran visual system. 3. *Gen. Physiol.* 59: 534-558, 1972.

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95. McCann, G. D. The interactive computer as an on-line aid to nervous system research. *Proc. of 4th International Biophysics Congress*, Moscow, USSR, 1972.

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99a. McCann, G. D. Moving in on Neurons. *Engineering & Science*, 36(3): 28, 1973.

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101. Cemperlein, R. and G. D. McCann. A study of the response properties of retinula cells in flies using nonlinear identification theory. *Biol. Cybernetics*, 19: 147-158, 1975.

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111. Pierantoni, R., M. C. Citron and G. D. McCann. Spatial relationships between synaptic vesicles and synaptic ribbons in the rods of the frog. *Proc. of Assn. for Research in Vision and Ophthalmology*, Sarasota, Fla., p. 116.

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115. Kroeker, J. P., G. D. McCann and M. C. Citron. Testing predictions of Wiener models of the visual system. *Proc. of the U. S.-Japan Joint Seminar on Advanced Analytical Techniques Applied to the Vertebrate Visual System*, Tokyo, Japan, pp. 28 1-300.
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119. Jacques, S., C. H. Shelden, G. D. McCann, B. Katz. Computerized reconstruction, localization and removal of small brain lesions. Abstract. Caltech Computer Symposium Current Problems in Biomedical Engineering. Pasadena, March 1979.
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126. Jacques, S. , C. H. Shelden, G. D. McCann. A computerized microstereo-tactic method to approach, 3-dimensionally reconstruct, remove and adjuvantly treat small CNS lesions. *Applied Neurophysiol.*
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129. Atunez, J-C. M., F. R. Galey, F. H. Linthicum, G. D. McCann. Computer-aided and graphic reconstruction of the human endoiymphatic duct and sac. A method for comparing Meniere's and non-Meniere's disease cases. *The Annals of Otology, Rhinoiogy and Laryngology*, 89(6:3).

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130. Jacques, S., C. H. Shelden, G. D. McCann, L. V. Majovski. A computerized method of localization, 3-dimensional reconstruction and stereotactic removal and treatment of micro CNS pathology: Implications for clinical neurophysiological research. 3. *Clinical Neuropsychol.*
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134. Citron, M. C., 3. P. Kroeker, G. D. McCann. Nonlinear interactions in ganglion cell receptive fields. 3. *Neurophysiol.*

135. Levick, W. B., M. C. Citron, J. P. Kroeker, G. D. McCann. Neurophysiological testing of cat retinal ganglion cells with spatiotemporal white-noise. *Nature*

- 1.7 Miscellaneous preprints ca. 1979
- 1.8 NSF Progress Report 1978
- 1.9 Instruction Material (EE 181) 1959

Box 2

- 2.1 Memoirs Jun 1990

DIGITAL FILES AND PHOTOGRAPHS

Box 2 cont.

- Photographs and Images
- 2.2 Photographs of G.D. McCann ca. 1970-80
- Computational Morphology
- 2.3 “Jacques Prints 1-60” (images of computer-aided brain surgery) ca 1978-80
- 2.4 Computational instruments ca. 1978-80
- 2.5-2.6 Computer generated graphics (color) ca. 1978-80 [2 folders]
- 2.7 Computer generated graphics (black and white) ca. 1978-80
- 2.8 Miscellaneous digital files (on compact disk) ca. 1980

Note: Two moving images, Flies Eyes (29 min.) and one unidentified film, were removed from the collection and placed in the audio-visual section of the Caltech Archives.