

PUBLICATIONS AND REPORTS

MEETING PAPERS PRESENTED

Tenth Annual Scientific Meeting, Houston Neurological Society, Houston, Texas
March 7, 1962

W. S. McCulloch, Anastomotic nets combatting noise (invited)

Lectures, Department of Biophysics, University of Colorado, Denver, Colorado
March 8-9, 1962

G. L. Gerstein, Firing patterns of single units in the central nervous system
(invited)

Meeting of Yale Linguistic Club, Yale University, New Haven, Connecticut
March 12, 1962

E. S. Klima, From "It is I" to "Him and Me are here": The structural relationship
between various styles of pronoun usage (invited)

Parent-Teachers Club Program, Harris School, Needham, Massachusetts
March 13, 1962

W. S. McCulloch, A bit about brains (invited)

Fourth North Carolina Junior Science Symposium, on "Research in Progress – Science
in the Making" (sponsored by the North Carolina Academy of Science and the U. S.
Army Research Office, Durham, in cooperation with Duke University), Duke University,
Durham, North Carolina
March 15, 1962

W. S. McCulloch, Keynote Address: How brains work (invited)

Colloquium, Wesleyan University, Middletown, Connecticut
March 19, 1962

J. G. King, Two experiments in home cosmology (invited)

Seminar, Department of Preventive Medicine, Harvard Medical School, Boston,
Massachusetts
March 19, 1962

G. L. Gerstein, Some models for the electrical activity of single neurons (invited)

MEETING PAPERS PRESENTED (continued)

Colloquium, Harvard University, Cambridge, Massachusetts

March 26, 1962

J. G. King, On the electrical neutrality of matter (invited)

American Physical Society Meeting, Baltimore, Maryland

March 26-29, 1962

D. H. Douglass, Jr., Magnetic field dependence of the superconducting energy gap (invited)

W. H. Whitney, A. H. Dammig, Jr., E. H. Graf, and H. A. Rubin, Proton resonance in solid methane at 4°K

Symposium on Symbolic Languages in Data Processing, International Computation Centre, Rome, Italy

March 26-31, 1962

Carol Bosche, Languages for symbol manipulation: COMIT

Third Annual Symposium on the Engineering Aspects of Magnetohydrodynamics, Rochester, New York

March 28-29, 1962

G. Bekefi, Emission of microwaves from plasmas

W. D. Jackson and E. S. Pierson, MHD power generation with two-fluid systems

H. H. Woodson, G. L. Wilson, and A. T. Lewis, A study of magnetohydrodynamic parametric generators

Interdisciplinary Conference on the Use of Telemetry in Animal Behavior and Physiology in Relation to Ecological Problems (sponsored by the American Museum of Natural History, Office of Naval Research and the Foundation for Instrumentation Education and Research), New York

March 29, 1962

W. S. McCulloch, The colloquy of living things (invited)

Lecture, IBM Research Center, Yorktown Heights, New York

March 30, 1962

M. Eden, Handwriting generation and recognition (invited)

MEETING PAPERS PRESENTED (continued)

1962 Weizmann Memorial Lectures in the Exact Sciences, Rehovoth, Israel
April 3-9, 1962

W. A. Rosenblith, Three lectures (invited):

Sensory communication and a model sensory system
Electrical activity in populations of neural elements
Firing patterns in single neural elements

Colloquium, Carnegie Institute of Technology, Pittsburgh, Pennsylvania
April 6, 1962

V. H. Yngve, Language and memory (invited)

Technion Israel Institute of Technology, Haifa, Israel
April 6, 1962

W. A. Rosenblith, MIT's Center for Communication Sciences (invited)

Public Lecture, Weizmann National Memorial, Rehovoth, Israel
April 9, 1962

W. A. Rosenblith, Computers as tools in the study of the brain (invited)

Lecture, Hebrew University, Jerusalem, Israel
April 10, 1962

W. A. Rosenblith, The communication sciences and the nervous system (invited)

Seminar, Veterans Administration Research Laboratories in Neuropsychiatry,
Pittsburgh, Pennsylvania
April 11, 1962

W. S. McCulloch, A proper logic for neurology (invited)

Annual Meeting, National Academy of Sciences-National Research Council,
Washington, D.C.
April 12, 1962

W. A. Clark, The LINC (invited)

Ninetieth Eastern Meeting of the Biometric Society, Chapel Hill, North Carolina
April 12-14, 1962

J. S. Barlow, Study of control of eye movements in man, by means of
autocorrelation and crosscorrelation

MEETING PAPERS PRESENTED (continued)

Pittsburgh Neuropsychiatric Society Golden Anniversary Program, "Vistas in Neuro-psychiatry," University of Pittsburgh

April 13, 1962

W. S. McCulloch, Ad Astra (invited)

New York State Section, American Physical Society Meeting, Tarrytown, New York

April 13-14, 1962

W. P. Allis, Historical development of plasma physics (invited)

S. C. Brown, Modern plasma diagnostics techniques (invited)

Second International Congress of Cybernetic Medicine, Royal Dutch Academy of Sciences, Amsterdam, The Netherlands

April 16-19, 1962

W. S. McCulloch, M. Blum, L. A. M. Verbeek, J. D. Cowan, and S. Winograd,
The synthesis of reliable systems from less reliable components

Joint IRE-AIEE Spring Lecture Series, New York

April 23, 1962

W. M. Siebert, Applied statistical decision theory in applications to communications (invited)

Washington Meeting American Physical Society, Washington, D. C.

April 23-26, 1962

W. J. Tomlinson III and H. H. Stroke, Nuclear moments and isotope shifts of neutron-deficient mercury isotopes 195, 195* and 194

W. T. Walter, Nuclear orientation and magnetic moment of Hg¹⁹⁷

Sixteenth Annual Frequency Control Symposium (sponsored by U. S. Army Signal Corps Research and Development Laboratory), Atlantic City, New Jersey

April 25-27, 1962

A. Javan and T. S. Jaseja, Stability of optical masers

C. L. Searle, Comparison of performance criteria of frequency standards (invited)

Conference on Optical Pumping, Heidelberg, Germany

April 26-28, 1962

H. H. Stroke, Optical and radiofrequency spectroscopy with radioactive atoms – Recent experiments and their interpretation

MEETING PAPERS PRESENTED (continued)

Communication Sciences Colloquium, University of Michigan, Ann Arbor, Michigan
April 27, 1962

V. H. Yngve, Language and memory (invited)

Annual Meeting, American Otological Society, Dallas, Texas
April 29-30, 1962

N. Y-S. Kiang, Stimulus coding in the auditory nerve system and its implications
for otology (invited)

Van der Waals Laboratory, University of Amsterdam, The Netherlands
May 1, 1962

S. C. Brown, Microwave radiation from gas discharge plasmas

Annual Spring Joint Computer Conference, San Francisco, California
May 1-2, 1962

B. G. Farley, Problems in the study of the nervous system (invited)

M. H. Goldstein, Jr., Discussion (invited)

Modern Engineering Course (sponsored by the University of California at Los Angeles)
Crotonville, New York
May 1-2, 1962

W. S. McCulloch, Four lectures:

Biomimesis
Introduction to the Tractatus
The nervous background of human factors
Summary: Neurophysiology

Spring Joint Computer Conference, American Federation of Information Processing
Societies, San Francisco, California
May 1-3, 1962

H. A. Ernst, MH-1, A computer-operated mechanical hand

Lecture, Cornell University, Ithaca, New York
May 3, 1962

F. Bitter, Flows in a steady plasma (invited)

MEETING PAPERS PRESENTED (continued)

Seminar in Mechanical Language, University of Pennsylvania, Philadelphia,
Pennsylvania

May 7, 1962

V. H. Yngve, The COMIT system (invited)

Colloquium, Electrical Engineering Department, Syracuse University, Syracuse,
New York

May 11, 1962

W. M. Siebert, Research in Communications Biophysics at M. I. T. (invited)

Symposium on Thermionic Power Conversion, Colorado Springs, Colorado

May 14-16, 1962

W. B. Nottingham, Ionization of cesium at surfaces

The energy distribution for electrons in a thermionic diode
plasma

Second Conference on Self-Organizing Systems, Chicago, Illinois (sponsored by Office
of Naval Research)

May 22-24, 1962

M. A. Arbib, J. D. Cowan, and W. S. McCulloch, Neurological models and
integrative processes (invited)

B. G. Farley, Some similarities between the behavior of a neural network model
and the electrophysiological experiments (invited)

Sixty-third Annual Meeting, Acoustical Society of America, New York

May 23-26, 1962

M. H. Goldstein, Jr., L. S. Frishkopf, and C. D. Geisler, Representation of
sounds by responses of single units in the eighth nerve of the bullfrog

D. M. Green, On the combination of noise and pure tone masking

S. Inomata, Auditory pattern-processing model

D. C. Teas and N. Y-S. Kiang, Differential sensitivity to masking of the evoked
response complex in unanaesthetized cats

JOURNAL ARTICLES ACCEPTED FOR PUBLICATION

(Reprints, if available, may be obtained from the Document Room,
26-327, Research Laboratory of Electronics, Massachusetts Insti-
tute of Technology, Cambridge 39, Massachusetts.)

A. E. Albert, A Mathematical Theory of Pattern Recognition (Ann. Math. Stat.)

JOURNAL ARTICLES ACCEPTED FOR PUBLICATION (continued)

- A. E. Albert, Review of "Principles of Neurodynamics" by Frank Rosenblatt (Math. Revs.)
- L. C. Bradley III and N. S. Wall, The Absence of Circular Dichroism in O_2^{16} and a Resultant Upper Limit for Parity Nonconservation (Nuovo cimento)
- L. W. Dean III, Interactions between Sound Waves (J. Acoust. Soc. Am.)
- Magda Ericson, C. Seabury Ward, S. C. Brown, and S. J. Buchsbaum, Containment of Plasmas by High-Frequency Electric Fields (J. Appl. Phys.)
- S. Frankenthal and W. P. Allis, The Relation between the Transport and the Orbit Models for a Plasma (Proc. IRE)
- A. S. House, K. N. Stevens, T. T. Sandel, and Jane B. Arnold, On the Learning of Speechlike Vocabularies (J. Verbal Learning and Verbal Behavior)
- H. Y. Hsieh and L. D. Smullin, Radiofrequency Measurements of Plasma Density (Phys. Fluids)
- C. S. Johnson, Jr. and J. S. Waugh, Nuclear Relaxation in Adulterated Hydrogen (J. Chem. Phys.)
- R. L. Kyhl, R. A. McFarlane, and M. W. P. Strandberg, Negative L and C in Solid-State Masers (Proc. IRE)
- L. M. Lidsky, S. D. Rothleder, D. J. Rose, S. Yoshikawa, C. Michelson, and R. J. Mackin, Jr., Highly Ionized Hollow-Cathode Discharge (J. Appl. Phys.)
- P. Penfield, Jr., A Classification of Lossless Three-ports (Trans. IRE, PGCT)
- R. W. Rodieck, N. Y-S. Kiang, and G. L. Gerstein, Some Quantitative Methods for the Study of Spontaneous Activity of Single Neurons (Biophys. J.)
- M. W. P. Strandberg, Effect of Electrostatic Interactions on the Nuclear Magnetic Resonance Dipolar Hyperfine Structure with Strong Correlation-Time Narrowing (Phys. Rev.)
- N. S. Sutherland, Simultaneous Discrimination Training of Octopus and Transfer of Discrimination along a Continuum (J. Comp. Physiol. Psychol.)
- N. S. Sutherland, The Discrimination of Stationary Shapes by Octopus: Further Open and Closed Forms (Am. J. Psychol.)
- N. S. Sutherland, The Visual Discrimination of Shape by Octopus: The Effects of Stimulus Size (Quart. J. Exptl. Psychol.)
- N. S. Sutherland, Visual Acuity and Discrimination of Stripe Widths in Octopus vulgaris Lamarck (Pubbl. Staz. Zool. Napoli)
- N. S. Sutherland, Visual Discrimination of Shape by Octopus: Squares and Crosses (J. Comp. Physiol. Psychol.)
- R. D. Thornton, Take-Home Laboratories (J. Engr. Educ.)
- L. Tisza, The Conceptual Structure of Physics (Revs. Modern Phys.)

JOURNAL ARTICLES ACCEPTED FOR PUBLICATION (continued)

- G. J. Wolga, Two Quantum Transitions in the Microwave Magnetic Resonance Spectrum of Atomic Chlorine (Phys. Rev.)

LETTERS TO THE EDITOR ACCEPTED FOR PUBLICATION

- A. H. Barrett, On the Millimetre-Wave Radio Source in Taurus (Nature)
- M. C. Goodall, A Fundamental Complementarity Principle for Inductive Logic (Nature)
- H. A. Haus, Noise Figure for Negative Source Resistance (Proc. IRE)
- H. A. Haus and C. H. Townes, Comments on Noise in Photoelectric Mixing (Proc. IRE)
- G. B. Kliman, Calibration of an Electromagnetic Velocity Probe for Electrically Conducting Liquids (Rev. Sci. Instr.)
- L. D. Smullin and G. Fiocco, Optical Echoes from the Moon (Nature)
- L. D. Smullin and G. Fiocco, Project Luna See (Proc. IRE)
- W. J. Tomlinson III and H. H. Stroke, Nuclear Isomer Shift in the Optical Spectrum of Hg^{195} : Interpretation of the Odd-Even Staggering Effect in Isotope Shift (Phys. Rev. Letters)

TECHNICAL REPORTS PUBLISHED

(These and previously published technical reports, if available, may be obtained from the Document Room, 26-327, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge 39, Massachusetts.)

- 385 P. Penfield, Jr., Tables and Formulas for Calculating Fourier Coefficients of Power-Law Devices
- 390 M. Schetzen, Some Problems in Nonlinear Theory
- 391 D. J. Sakrison, Application of Stochastic Approximation Methods to System Optimization
- 396 P. Chorney, Power and Energy Relations in Bidirectional Waveguides
- 397 D. M. Dix, The Magnetohydrodynamic Flow Past a Nonconducting Flat Plate in the Presence of a Transverse Magnetic Field

SPECIAL PUBLICATIONS

- M. A. Arbib, J. D. Cowan, and W. S. McCulloch, Neurological Models and Integrative Processes (Proc. Symposium on Self-Organizing Systems, Chicago, Illinois, May 22-24, 1962)

SPECIAL PUBLICATIONS (continued)

- M. Blum, N. M. Onesto, and L. A. M. Verbeek, Tolerable Errors of Neurons for Infallible Nets (Proc. Symposium on Redundancy Techniques for Computing Systems, Spartan Books, Washington, D.C., 1962)
- B. G. Farley, Problems in the Study of the Nervous System (Proc. 1962 Spring Joint Computer Conference, San Francisco, California, May 1-3, 1962, National Press, 1962), pp. 147-152
- M. C. Goodall, Induction and Logical Types (Biological Prototypes and Synthetic Systems – I., Plenum Press, New York, 1962)
- N. Y-S. Kiang, T. Watanabe, Eleanor C. Thomas, and Louise F. Clark, Stimulus Coding in the Cat's Auditory Nerve: A Preliminary Report (Ann. Otol. Rhinol. Laryngol.)
- W. S. McCulloch, Biomimesis – The Imitation of One Form of Life by Another (Biological Prototypes and Synthetic Systems – I., Plenum Press, New York, 1962)
- W. S. McCulloch, The Utility of Anastomotic Nets (Proc. Symposium on Redundancy Techniques for Computing Systems, Spartan Books, Washington, D.C., 1962)
- W. T. Peake, Biomedical Engineering in Basic Research (Proc. Conference on "The Role of Biomedical Engineering in Universities and Hospitals," Omaha, Nebraska, October 26-27, 1961)
- L. G. Roberts, Recent Development in Optical Character Recognition at M.I.T. (Proc. Symposium on Optical Character Recognition, Washington, D.C., January 15-17, 1962)
- W. A. Rosenblith, Computers and Brains (Brown University Lecture Series, "Applications of Digital Computers," Providence, Rhode Island, 1962)
- H. H. Stroke, Distribution of Nuclear Charge and Magnetization from Atomic Hyperfine Structure (Lecture in Nuclear Physics Course, Varenna, Italy, 1961, Academic Press, New York, 1962)