



Education

- 1960 **Ph.D., Electrical Engineering**, *California Institute of Technology.*
- 1957 **M.S., Electrical Engineering**, *California Institute of Technology.*
- 1956 **B.S., Electrical Engineering**, *California Institute of Technology.*

Appointments

- 1999 – present **Gordon and Betty Moore Professor of Engineering and Applied Science, Emeritus**
- 1992 – 1999 **Gordon and Betty Moore Professor of Engineering and Applied Science**
- 1980 – 1992 **Gordon and Betty Moore Professor of Computer Science**
- 1977 – 1980 **Professor of Computer Science and Electrical Engineering**
- 1967 – 1977 **Professor**
- 1962 – 1967 **Associate Professor**
- 1959 – 1962 **Assistant Professor**
- 1958 – 1959 **Instructor**

Scientific and Professional Societies

- Fellow, American Physical Society**
- Member, National Academy of Engineering**
- Member, National Academy of Sciences**
- Foreign Member, Royal Swedish Academy of Engineering Sciences**
- Life Fellow, Franklin Institute**
- Fellow, American Academy of Arts and Sciences**
- Life Fellow, The Institute of Electrical and Electronics Engineers, Inc.**
- Fellow, National Academy of Inventors (NAI)**

Honors and Awards

- 2022 **The Inamori Foundation's Kyoto Prize 2022 in Advanced Technology**, for “leading contributions to the establishment of the guiding principles for VLSI systems design.”
- 2015 **Fellow, National Academy of Inventors (NAI)**, for “unparalleled commitment to excellence in academic invention.”
- 2011 **The Frontiers of Knowledge Award in the Category of Information and Communication Technologies**, presented by Banco Bilbao Vizcaya Argentaria (BBVA), for being “the most influential thinker and pioneer” of the silicon age and for enabling “the development of the billion-transistor processors that drive the electronic devices—for example, in laptops, tablets, smartphones, DVD players—ubiquitous in our daily lives.”
- 2009 **Inductee, National Inventors Hall of Fame.**

- 2003 *The National Medal of Technology, the nation's highest honor for technological innovation, awarded by President George W. Bush. Mead was presented the award "for pioneering contributions to the microelectronics field, that include spearheading the development of tools and techniques for modern integrated-circuit design, laying the foundation for fabless semiconductor companies, catalyzing the electronic-design automation field, training generations of engineers that have made the United States the world leader in microelectronics technology, and founding more than 20 companies including Actel Corporation, Silicon Compilers, Synaptics, and Sonic Innovations."*
- 2003 *The Founders Award, National Academy of Engineering, for "visionary contributions in the field of microelectronics, including VLSI technology and computational neural systems."*
- 2001 *The Dickson Prize in Science, awarded by Carnegie Mellon University, for "pioneering inventions and work that has helped to power the information age."*
- 1999 *The Lemelson-MIT Award, presented by the Lemelson Foundation and the Massachusetts Institute of Technology, "For his many contributions to the field of microelectronics, which have led to a new business model for the industry and enabled a new wave of innovation in information technology."*
- 1997 *Allen Newell Award, awarded by the Association for Computing Machinery (ACM), "For career contributions within the field of computer science, and for contributions bridging computer science and other disciplines."*
- 1996 *Phil Kaufman Award, presented by Electronic Design Automation Companies (EDAC), "For innovative contributions to design tool technology of benefit to electronic systems and IC designers."*
- 1996 *IEEE John Von Neumann Medal, The Institute of Electrical and Electronics Engineers, "For leadership and innovative contributions to VLSI and creative microelectronic structures."*
- 1994 *Secretary of the Navy Captain Robert Dexter Conrad Award, presented by Department of the Navy, "In honor of the Navy's highest recognition of scientific achievement."*
- 1992 *Award for Outstanding Research, International Neural Network Society (INNS).*
- 1991 *Honorary Degree, Doctor of Science, presented by The University of Southern California, "In recognition of distinguished achievement."*
- 1990 *Best Paper Award, IEEE Signal Processing Society, "For the paper co-authored with Richard F. Lyon, entitled 'An Analog Electronic Cochlea'."*
- 1990 *Walker-Ames Distinguished Visiting Professor, University of Washington.*
- 1990 *Citation for Exceptional Contributions to Science, Technology and Education, presented by Exploratorium, "For visionary contributions to the fields of microelectronics and computer science, and for encouraging the advancement of science and technology through his distinguished role as a teacher."*
- 1987 *Walter B. Wriston Public Policy Award, presented by the Hudson Institute, "For his role as an innovator and visionary thinker in the fields of technology and electronics."*
- 1987 *Honorary Doctorate, The University of Lund, "In recognition of his breakthrough in the development of structured methods for construction of microelectronic systems, and his enthusiastic work in spreading this technology."*
- 1985 *The Harry Goode Memorial Award, presented by The American Federation of Information Processing Societies, "In recognition of his pioneering contributions to the research and education of very large scale integration (VLSI) design."*

- 1985 *The John Price Wetherhill Medal (with Lynn Conway), presented by the Board of Managers of The Franklin Institute, "In consideration of the major impact of their method of obtaining silicon chips in small quantities at reasonable cost."*
- 1984 *Harold Pender Award, presented by The Faculty of the Moore School of Engineering, University of Pennsylvania, "For his insight into the potential of VLSI, for his development of CAD techniques for VLSI technology, for his co-authoring of the most respected VLSI textbook to date, and for his contributions to the state-of-the-art of this field."*
- 1984 *IEEE Centennial Medal, presented by The Institute of Electrical and Electronics Engineers, "For extraordinary achievement."*
- 1981 *The Electronics Achievement Award, shared with Lynn Conway, presented by the Editors of Electronics Magazine, "For their work in structuring the methodology of the design of very large scale integrated circuits, summed up in the basic textbook on the subject, 'Introduction to VLSI Systems'."*
- 1971 *T.D. Callinan Award, presented by The Electrochemical Society, "In recognition of an outstanding contribution to the literature of dielectrics."*

Patents

1. *Diorio, Christopher J. and Mead, Carver A., "pMOS Analog EEPROM cell," U.S. Patent No. 6,452,835 B1, issued September 17, 2002. (Continuation of U.S. Patent No. 5,898,613, issued April 27, 1999.).*
2. *Diorio, Christopher J. and Mead, Carver A., "pMOS EEPROM nonvolatile data storage," U.S. Patent No. 6,144,581, issued November 7, 2000.*
3. *Diorio, Christopher J. and Mead, Carver A., "Semiconductor structure for long-term learning," U.S. Patent No. 6,125,053, issued September 26, 2000.*
4. *Mead, Carver A. and Delbruck, Tobias, "Sense amplifier for high-density imaging array," U.S. Patent No. 6,097,432, issued August 1, 2000.*
5. *Mead, Carver A., Delbruck, Tobi, and Chi, Min-Hwa, "Capacitive coupled bipolar active pixel imager having overflow protection and electronic shutter," U.S. Patent No. 6,088,058, issued July 11, 2000.*
6. *Stockham, Jr., Thomas G., Chabries, Douglas M., and Mead, Carver A., "Hearing aid device incorporating signal processing techniques," U.S. Patent No. 6,072,885, issued June 6, 2000.*
7. *Mead, Carver A., Chabries, Douglas M., and Davis, Keith L., "Digital hearing aid using differential signal representations," U.S. Patent No. 6,044,162, issued March 28, 2000.*
8. *Nise, Benjamin E., Mead, Carver A., and Fang, Xialoing, "Passive switched capacitor delta analog-to-digital converter with programmable gain control," U.S. Patent No. 5,995,036, issued November 30, 1999.*
9. *Diorio, Christopher J., Hasler, Paul E., Minch, Bradley A., and Mead, Carver A., "Hole impact ionization mechanism of hot electron injection and four-terminal FET semiconductor structure for long-term learning," U.S. Patent No. 5,990,512, issued November 23, 1999.*
10. *Minch, Bradley A., Hasler, Paul E., Diorio, Christopher J., and Mead, Carver A., "Autozeroing floating-gate amplifier," U.S. Patent No. 5,986,927, issued November 16, 1999.*
11. *Bergemont, Albert, Chi, Min-Hwa, Haggag, Hosam, and Mead, Carver, "Capacitor-coupled bipolar active pixel sensor with integrated electronic shutter," U.S. Patent No. 5,932,873, issued August 3, 1999.*

12. **Diorio, Christopher J., Hasler, Paul E., Minch, Bradley A., and Mead, Carver A., "Method for implementing a learning function," U.S. Patent No. 5,914,894, issued June 22, 1999.**
13. **Diorio, Christopher J. and Mead, Carver A., "pMOS analog EEPROM cell," U.S. Patent No. 5,898,613, issued April 27, 1999.**
14. **Minch, Bradley A., Hasler, Paul E., Diorio, Christopher J., and Mead, Carver A., "Autozeroing floating gate amplifier," U.S. Patent No. 5,875,126, issued February 23, 1999.**
15. **Mead, Carver A. and Delbruck, Tobias, "Sense amplifier for high-density imaging array," U.S. Patent No. 5,844,265, issued December 1, 1998.**
16. **Delbruck, Tobias and Mead, Carver A., "Correlated double sampling circuit," U.S. Patent No. 5,838,176, issued November 17, 1998.**
17. **Bergemont, Albert, Mead, Carver A., Chi, Min-Hwa, and Haggag, Hosam, "Method of manufacturing a thin poly, capacitor coupled contactless imager with high resolution and wide dynamic range," U.S. Patent No. 5,837,574, issued November 17, 1998.**
18. **Diorio, Christopher J., Hasler, Paul E., Minch, Bradley A., and Mead, Carver A., "Three-terminal silicon synaptic device," U.S. Patent No. 5,825,063, issued October 20, 1998.**
19. **Chi, Min-Hwa, Bergemont, Albert, and Mead, Carver, "Method of making a contactless capacitor-coupled bipolar active pixel sensor with integrated electronic shutter," U.S. Patent No. 5,776,795, issued July 7, 1998.**
20. **Mead, Carver A. and Faggin, Federico, "Integrating imaging system with phototransistor having wide dynamic range," U.S. Patent No. 5,763,909, issued June 9, 1998.**
21. **Chi, Min-Hwa, Bergemont, Albert, and Mead, Carver, "Contactless capacitor-coupled bipolar active pixel sensor with integrated electronic shutter," U.S. Patent No. 5,734,191, issued March 31, 1998.**
22. **LeMoncheck, John, Allen, Timothy P., Steinbach, Gunter, and Mead, Carver A., "Writable analog reference voltage storage device," U.S. Patent No. 5,629,891, issued May 13, 1997.**
23. **Diorio, Christopher J., Hasler, Paul E., Minch, Bradley A., and Mead, Carver A., "Semiconductor structure for long term learning," U.S. Patent No. 5,627,392, issued May 6, 1997.**
24. **Bergemont, Albert, Mead, Carver A., Chi, Min-Hwa, and Haggag, Hosam, "Method of manufacturing a capacitor coupled contactless imager with high resolution and wide dynamic range," U.S. Patent No. 5,576,237, issued November 19, 1996.**
25. **Bergemont, Albert, Mead, Carver A., Chi, Min-Hwa, and Haggag, Hosam, "Base capacitor coupled photosensor with emitter tunnel oxide for very wide dynamic range in a contactless imaging array," U.S. Patent No. 5,566,044, issued October 15, 1996.**
26. **Bergemont, Albert, Mead, Carver A., Chi, Min-Hwa, and Haggag, Hosam, "Capacitor coupled contactless imager with high resolution and wide dynamic range," U.S. Patent No. 5,552,619, issued September 3, 1996.**
27. **LeMoncheck, Allen, Timothy P., Steinbach, Gunter, and Mead, Carver A., "Writable analog reference voltage storage device," U.S. Patent No. 5,541,878, issued July 30, 1996.**
28. **Mead, Carver A., Wolf, Ralph, and Allen, Timothy P., "Paintbrush stylus for capacitive touch sensor pad," U.S. Patent No. 5,488,204, issued January 30, 1996.**
29. **Sarpeshkar, Rahul and Mead, Carver A., "CMOS low-power, wide-linear-range, well-input differential and transconductance amplifiers," U.S. Patent No. 5,463,348, issued October 31, 1995.**

30. **Steinbach, Gunter, Allen, Timothy P., and Mead, Carver A., "Adaptive analog minimum/maximum selector and subtractor circuit," U.S. Patent No. 5,408,194, issued April 18, 1995.**
31. **Delbruck, Tobias and Mead, Carver A., "Adaptive photoreceptor including adaptive element for longtime-constant continuous adaptation with low offset and insensitivity to light," U.S. Patent No. 5,376,813, issued December 27, 1994.**
32. **Allen, Timothy P., Anderson, Janeen D. W., Mead, Carver A., Faggin, Federico, Platt, John C., and Wall, Michael F., "Electrically adaptable neural network with post-processing circuitry," U.S. Patent No. 5,331,215, issued July 19, 1994.**
33. **Mead, Carver A. and Faggin, Federico, "Integrating imaging system having wide dynamic range with sample/hold circuits," U.S. Patent No. 5,324,958, issued June 28, 1994.**
34. **Lyon, Richard F., Delbruck, Tobias, and Mead, Carver A., "Circuits for wide input range analog rectification and correlation," U.S. Patent No. 5,319,268, issued June 7, 1994.**
35. **Mead, Carver A., Anderson, Janeen D. W., and Platt, John C., "Continuous synaptic weight update mechanism," U.S. Patent No. 5,303,329, issued April 12, 1994.**
36. **Mead, Carver A., "High-density photosensor and contactless imaging array having wide dynamic range," U.S. Patent No. 5,289,023, issued February 22, 1994.**
37. **Mead, Carver A. and Faggin, Federico, "Sense amplifier," U.S. Patent No. 5,276,407, issued January 4, 1994.**
38. **Mead, Carver A. and Faggin, Federico, "Integrating photosensor and imaging system having wide dynamic range with varactors," U.S. Patent No. 5,260,592, issued November 9, 1993.**
39. **Allen, Timothy P., Greenblatt, Adam K., Mead, Carver A., and Anderson, Janeen D. W., "Writable analog reference voltage storage device," U.S. Patent No. 5,243,554, issued September 7, 1993.**
40. **Platt, John C., Anderson, Janeen D. W., and Mead, Carver A., "Synaptic element including weight-storage and weight-adjustment circuit," U.S. Patent No. 5,204,549, issued April 20, 1993.**
41. **Allen, Timothy P., Greenblatt, Adam K., Mead, Carver A., and Anderson, Janeen D. W., "Writable analog reference voltage storage device," U.S. Patent No. 5,166,562, issued November 24, 1992.**
42. **Platt, John C., Wall, Michael F., Gribble, Glenn E., and Mead, Carver A., "Circuits for linear conversion between currents and voltages," U.S. Patent No. 5,165,054, issued November 17, 1992.**
43. **Anderson, Janeen D. W., Mead, Carver A., Allen, Timothy P., and Wall, Michael F., "Adaptable MOS current mirror," U.S. Patent No. 5,160,899, issued November 3, 1992.**
44. **Anderson, Janeen D. W., Mead, Carver A., Allen, Timothy P., and Wall, Michael F., "CMOS winner-take-all circuit with offset adaptation," U.S. Patent No. 5,146,106, issued September 8, 1992.**
45. **Platt, John C., Wall, Michael F., Gribble, Glenn E., and Mead, Carver A., "Circuits for linear conversion between voltages and currents," U.S. Patent No. 5,126,685, issued June 30, 1992.**
46. **Mead, Carver A., Faggin, Federico, Allen, Timothy P., and Anderson, Janeen D. W., "Synaptic element and array," U.S. Patent No. 5,120,996, issued June 9, 1992.**
47. **Anderson, Janeen D. W., Mead, Carver A., Allen, Timothy P., and Wall, Michael F., "CMOS current mirror with offset adaptation," U.S. Patent No. 5,119,038, issued June 2, 1992.**

48. **Mead, Carver A. and Allen, Timothy P., "CMOS amplifier with offset adaptation," U.S. Patent No. 5,109,261, issued April 28, 1992.**
49. **Platt, John C., Wall, Michael F., Gribble, Glenn E., and Mead, Carver A., "Linear, continuous-time, two quadrant multiplier," U.S. Patent No. 5,107,149, issued April 21, 1992.**
50. **Sivilotti, Massimo and Mead, Carver A., "CMOS single phase registers," U.S. Patent No. 5,103,116, issued April 7, 1992.**
51. **Delbruck, Tobias and Mead, Carver A., "Subthreshold MOS circuits for correlating analog input voltages," U.S. Patent No. 5,099,156, issued March 24, 1992.**
52. **Mead, Carver A. and Faggin, Federico, "Integrating photosensor and imaging system having wide dynamic range," U.S. Patent No. 5,097,305, issued March 17, 1992.**
53. **Mead, Carver A., "Subthreshold CMOS amplifier with wide input voltage range," U.S. Patent No. 5,095,284, issued March 10, 1992.**
54. **Mead, Carver A., Allen, Timothy P., Faggin, Federico, and Anderson, Janeen D. W., "Synaptic element and array," U.S. Patent No. 5,083,044, issued January 21, 1992.**
55. **Mead, Carver A. and Allen, Timothy P., "Adaptable current mirror," U.S. Patent No. 5,073,759, issued December 17, 1991.**
56. **Mead, Carver A. and Allen, Timothy P., "CMOS amplifier with offset adaptation," U.S. Patent No. 5,068,622, issued November 26, 1991.**
57. **Anderson, Janeen D. W., Mead, Carver A., Allen, Timothy P., and Wall, Michael F., "CMOS amplifier with offset adaptation," U.S. Patent No. 5,059,920, issued October 22, 1991.**
58. **Mead, Carver A., Lazzaro, John, Mahowald, M. A., and Ryckebusch, Sylvie, "Winner-take-all circuits for neural computing systems," U.S. Patent No. 5,059,814, issued October 22, 1991.**
59. **Mead, Carver A. and Allen, Timothy P., "Adaptable CMOS winner-take-all circuit," U.S. Patent No. 5,049,758, issued September 17, 1991.**
60. **Mead, Carver A., Allen, Timothy P., and Faggin, Federico, "Dynamic synapse for neural network," U.S. Patent No. 4,962,342, issued October 9, 1990.**
61. **Anderson, Janeen D. W. and Mead, Carver A., "MOS device for long-term learning," U.S. Patent No. 4,953,928, issued September 4, 1990.**
62. **Mead, Carver A. and Allen, Timothy P., "Subthreshold CMOS amplifier with offset adaptation," U.S. Patent No. 4,935,702, issued June 19, 1990.**
63. **Mead, Carver A. and Allen, Timothy P., "Scanning method and apparatus for current signals having large dynamic range," U.S. Patent No. 4,876,534, issued October 24, 1989.**
64. **Mead, Carver A., Mahowald, Michelle A., and Sivilotti, Massimo A., "Integrated sensor and processor for visual images," U.S. Patent No. 4,786,818, issued November 22, 1988.**
65. **Mead, Carver A. and Lyon, Richard F., "Electronically variable active analog delay line," U.S. Patent No. 4,771,196, issued September 13, 1988.**
66. **Mead, Carver, Shen, Cecilia, "Electrically erasable programmable logic array (EEPLA)," U.S. Patent No. 4,745,579, issued May 17, 1988.**
67. **Wawrzynek, John C. and Mead, Carver A., "Electronic system for synthesizing and combining voices of musical instruments," U.S. Patent No. 4,736,663, issued April 12, 1988.**
68. **Mead, Carver A., Wawrzynek, John C., and Lin, Tzu-Mu, "Electronic musical instrument," U.S. Patent No. 4,736,333, issued April 5, 1988.**

69. **Mead, Carver A. and Wawrzynek, John C., "CMOS logic circuit," U.S. Patent No. 4,716,312, issued December 29, 1987.**
70. **Tanner, John E. and Mead, Carver A., "Correlating optical motion detector," U.S. Patent No. 4,631,400, issued December 23, 1986.**
71. **Mead, Carver A., "High level control processor," U.S. Patent No. 4,099,230, issued July 4, 1978.**
72. **Mead, Carver, "Processor which sequences externally of a central processor," U.S. Patent No. 3,959,774, issued May 25, 1976.**
73. **Goldman, Arnold J., Kurtin, Stephen L., and Mead, Carver A., "Electronic text display and processing system," U.S. Patent No. 3,810,107, issued May 7, 1974.**
74. **Mead, Carver A., "Logic system," U.S. Patent No. 3,803,587, issued April 9, 1974.**
75. **Goldman, Arnold J., Kurtin, Stephen L., and Mead, Carver A., "Electronic text display system which simulates a typewriter," U.S. Patent No. 3,786,429, issued January 15, 1974.**
76. **Mead, Carver A. and McCaldin, James O., "Electroluminescent device," U.S. Patent No. 3,786,315, issued January 15, 1974.**
77. **Jenkins, Robert, Mead, Carver A., and McCaldin, James, "Ohmic contact to zinc sulfide devices," U.S. Patent No. 3,780,427, issued December 25, 1973.**
78. **Mead, Carver A. and Kurtin, Stephen, "Thermometer probe," U.S. Patent No. 3,678,751, issued July 25, 1972.**
79. **Mead, Carver A., "Integrated circuit character generator," U.S. Patent No. 3,656,146, issued April 11, 1972.**
80. **Mead, Carver A. and McCaldin, James O., "Method for processing semiconductors," U.S. Patent No. 3,650,823, issued March 21, 1972.**
81. **Jenkins, Robert, Mead, Carver A., and McCaldin, James, "Ohmic contact to zinc sulfide devices," U.S. Patent No. 3,614,551, issued October 19, 1971.**
82. **Kurtin, Stephen L. and Mead, Carver A., "Disposable body temperature sensor," U.S. Patent No. 3,603,150, issued September 7, 1971.**

Publications

- 2023 **Mead, Carver (2023) Neuromorphic Engineering: In Memory of Misha Mahowald. *Neural Computation* 35, 343--383. https://doi.org/10.1162/neco_a_01553**
- 2022 **Cramer, John Gleason and Mead, Carver Andress (2022) Symmetry, Transactions, and the Mechanism of Wave Function Collapse. In: *Symmetries in Quantum Mechanics*. MDPI, Basel, pp. 5--48. ISBN 978-3-0365-2694-2. <https://resolver.caltech.edu/CaltechAUTHORS:20220114-163105179>**
- 2021 **Mead, Carver (2021) My Early Collaboration with Bill Goddard. In: *Computational Materials, Chemistry, and Biochemistry: From Bold Initiatives to the Last Mile*. Springer Series in Materials Science. No. 284. Springer International Publishing, Cham, pp. 9--16. ISBN 978-3-030-18777-4. <https://resolver.caltech.edu/CaltechAUTHORS:20210127-082657092>**
- 2021 **Siegel, Peter H. and Mead, Carver (2021) Carver Mead: "It's All About Thinking," A Personal Account Leading up to the First Microwave Transistor. *IEEE Journal of Microwaves*, 1 (1). pp. 269--274. ISSN 2692-8388. DOI:10.1109/jmw.2020.3028277. <https://resolver.caltech.edu/CaltechAUTHORS:20210208-144010883>**
- 2020 **Cramer, John Gleason and Mead, Carver Andress (2020) Symmetry, Transactions, and the Mechanism of Wave Function Collapse. *Symmetry*, 12 (8). Art. No. 1373. ISSN 2073-8994. DOI:10.3390/sym12081373. <https://resolver.caltech.edu/CaltechAUTHORS:20200625-075535642>**

- 2020 Mead, Carver (2020) How we created neuromorphic engineering. *Nature Electronics*, 3 (7). pp. 434–435. ISSN 2520-1131. <https://resolver.caltech.edu/CaltechAUTHORS:20200625-085609229>
- 2015 Isi, Maximiliano, Weinstein, Alan J. and Mead, Carver, et al. (2015) Detecting beyond-Einstein polarizations of continuous gravitational waves. *Physical Review D*, 91 (8). Art. No. 082002. ISSN 2470-0010. DOI:10.1103/PhysRevD.91.082002. <https://resolver.caltech.edu/CaltechAUTHORS:20150519-072427452>
- 2015 Mead, Carver (2015) Gravitational Waves in G4v. (Submitted) DOI:10.48550/arXiv.1503.04866. <https://resolver.caltech.edu/CaltechAUTHORS:20150819-134952067>
- 2013 Mead, Carver (2013) The Nature of Light: What are “Photons”? In: *The Nature of Light: What are Photons? V. Proceedings of SPIE*. No.8832. Society of Photo-Optical Instrumentation Engineers (SPIE), Bellingham, WA, Art. No. 883202. ISBN 9780819496829. <https://resolver.caltech.edu/CaltechAUTHORS:20131209-074730086>
- 2013 Mead, Carver (2013) The evolution of technology. In: *2013 IEEE International Solid-State Circuits Conference Digest of Technical Papers (ISSCC)*. IEEE, Piscataway, NJ, p. 26. ISBN 978-1-4673-4515-6. <https://resolver.caltech.edu/CaltechAUTHORS:20150127-163653667>
- 2005 Mead, Carver (2005) Neuromorphic Engineering: Overview and Potential. In: *2005 IEEE International Joint Conference on Neural Networks. IJCNN '05. Proceedings*. Vol. 5. IEEE, Piscataway, NJ, p. 3334. ISBN 0-7803-9048-2. <https://resolver.caltech.edu/CaltechAUTHORS:20150126-165023417>
- 2001 Mead, Carver (2001) The Evolution of Electronic Photography. In: *Final program and proceedings: IS& T's PICS Conference, 54th Annual conference, April 22–25, 2001, Queen Elizabeth Hotel, Montreal, Quebec, Canada*. Society for Imaging Science and Technology, Springfield, VA, p. 2. ISBN 9780892082322. <https://resolver.caltech.edu/CaltechAUTHORS:20150112-110810021> 2000
- 2000 Mead, Carver A. (2000) *Collective electrodynamics: quantum foundations of electromagnetism*. The MIT Press, Cambridge, MA. ISBN 0262133784. <https://resolver.caltech.edu/CaltechAUTHORS:20150203-162438256> 1999
- 1999 Watts, Lloyd, Lyon, Richard F. and Mead, Carver (1999) A Bidirectional Analog VLSI Cochlear Model. In: *Advanced research in VLSI: proceedings of the 1991 University of California/Santa Cruz conference*. MIT Press, Cambridge, MA, pp. 153–162. ISBN 9780262193085. <https://resolver.caltech.edu/CaltechAUTHORS:20150112-115633935>
- 1999 Mead, Carver A. (1999) *Collective Electrodynamics I*. In: *Feynman and computation: exploring the limits of computers*. Perseus Books, Reading, MA, pp. 29–43. ISBN 0738200573. <https://resolver.caltech.edu/CaltechAUTHORS:20150109-113726556>
- 1999 Mead, Carver A. (1999) Feynman as a colleague. In: *Feynman and computation: exploring the limits of computers*. Perseus Books, Reading, MA, pp. 21–28. ISBN 0738200573. <https://resolver.caltech.edu/CaltechAUTHORS:20150109-111939447>
- 1999 Mead, Carver (1999) *Life Without Bits*. In: *Talking back to the machine: computers and human aspiration*. Copernicus, New York, NY, pp. 15–21. ISBN 0387984135. <https://resolver.caltech.edu/CaltechAUTHORS:20150112-152455731>
- 1999 Mead, Carver A. (1999) Scaling of MOS Technology to Submicrometer Feature Sizes. In: *Feynman and computation: exploring the limits of computers*. Perseus Books, Reading, MA, pp. 93–115. ISBN 0738200573. <https://resolver.caltech.edu/CaltechAUTHORS:20150109-120856432> 1998

- 1998 **Yadid-Pecht, Orly, Fossum, Eric and Mead, Carver (1998) Active-Pixel Sensors With "Winner-Take-All" Mode.** *NASA Tech Briefs*, 22. pp. 43–44. ISSN 1049-3522. <https://resolver.caltech.edu/CaltechAUTHORS:20150915-132810466>
- 1998 **Sarpeshkar, Rahul, Lyon, Richard F. and Mead, Carver (1998) A Low-Power Wide-Dynamic-Range Analog VLSI Cochlea.** *Analog Integrated Circuits and Signal Processing*, 16 (3). pp. 245–274. ISSN 0925-1030. DOI:10.1023/A:1008218308069. <https://resolver.caltech.edu/CaltechAUTHORS:20150127-164613163>
- 1998 **Diorio, Chris, Hasler, Paul, Minch, Bradley A., et al. (1998) Floating-Gate MOS Synapse Transistors.** In: *Neuromorphic Systems Engineering. Kluwer international series in engineering and computer science. Analog circuits and signal processing. Vol.4. No. SECS 447. Kluwer Academic, Boston*, pp. 315–337. ISBN 9780792381587. <https://resolver.caltech.edu/CaltechAUTHORS:20150109-144208064>
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