

**IEEE MORRIS N. LIEBMAN MEMORIAL AWARD  
RECIPIENTS**

Beginning with the 2001 presentation, the Morris N. Liebmann Memorial Award  
will be renamed the [IEEE Daniel E. Noble Award](#)

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| 2000 - JAMES S. HARRIS, Jr.<br>Stanford University<br>Stanford, CA, USA  | "For contributions to technology enabling commercialization of gallium arsenide devices and circuits."                                  |
| 1999 - NO AWARD  |   |
| 1998 - NAOKI YOKOYAMA<br>Fujitsu Laboratories Ltd.<br>Atsugi, Japan  | "For contributions to and leadership in the development of self-aligned refractory-gate gallium arsenide MESFET integrated circuits."   |
| 1997 - FUJIO MASUOKA<br>Tohoku University<br>Sendai, Japan   | "For the development of Flash EEPROM and NAND-type EEPROM technology."  |
| 1996 - SEIKI OGURA<br>IBM Corporation<br>Hopewell Junction, NY, USA  | "For contributions to and leadership in the development of the lightly doped drain silicon field effect transistor (LDDFET)."           |
| 1995 - M. GEORGE CRAFORD<br>Hewlett-Packard Company<br>San Jose, CA, USA   | "For contributions and leadership in the research, development, and manufacturing of visible-spectrum LED materials and devices."       |
| 1994 - LUBOMYR T. ROMANKIW<br>IBM/T.J. Watson Res. Ctr.<br>Yorktown Heights, NY, USA                                       | "For innovations in thin film fabrication processes to realize inductive and magnetoresistive thin film heads for large scale storage." |
| 1993 - B. JAYANT BALIGA<br>North Carolina State Univ.<br>Raleigh, NC, USA  | "For pioneering contributions to the development of advanced power semiconductor devices."  |
| 1992 - PRAVEEN CHAUDHARI<br>and JEROME J. CUOMO<br>and RICHARD J. GAMBINO<br>IBM Corp.<br>Yorktown Heights, NY, USA        | "For the discovery of amorphous magnetic films used in magneto-optic data storage systems."   |
| 1991 - MORTON B. PANISH<br>AT&T Bell Laboratories<br>Murray Hill, NJ, USA  | "For outstanding contributions to the epitaxial growth of compound semiconductor materials and devices."                                |
| 1990 - SATOSHI HIYAMIZU<br>Osaka University<br>Osaka, Japan<br>and TAKASHI MIMURA<br>Fujitsu Laboratories<br>Atsugi, Japan | "For demonstration of the High Electron Mobility Transistor (HEMT)."  |
| 1989 - TAKANORI OKOSHI<br>University of Tokyo<br>Tokyo, Japan  | "For leadership in and pioneering contributions to coherent optical fiber communications."  |

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- 1988 - JAMES R. BODDIE  
AT&T Bell Laboratories  
Holmdel, NJ, USA  
and RICHARD A. PEDERSEN  
AT&T Bell Laboratories  
Allentown, PA, USA
- 1987 - NO AWARD
- 1986 - BISHNU S. ATAL  
AT&T Bell Laboratories  
Murray Hill, NJ, USA  
and FUMITADA ITAKURA  
Nagoya University  
Nagoya, Japan
- 1985 - RUSSELL D. DUPUIS  
AT&T Bell Laboratories  
Murray Hill, NJ, USA  
and HAROLD M. MANASEVIT  
TRW Technology Research Center  
El Segundo, CA, USA
- 1984 - DAVID E. CARLSON  
RCA Laboratories  
Princeton, NJ, USA  
and CHRISTOPHER R. WRONSKI  
Exxon Corp  
Linden, NJ, USA
- 1983 - ROBERT W. BRODERSEN  
and PAUL R. GRAY  
and DAVID A. HODGES  
University of California  
Berkeley, CA, USA
- 1982 - JOHN ARTHUR, JR.  
Perkin-Elmer Corp.  
Eden Prairie, MN  
and ALFRED Y. CHO  
Bell Laboratories  
Murray Hill, NJ, USA
- 1981 - CALVIN F. QUATE  
Stanford University  
Stanford, CA, USA
- 1980 - ANTHONY J. DEMARIA  
United Tech. Res. Center  
West Hartford, CT, USA
- "For contributions to the realization of practical single chip digital signal processors."
- "For pioneering contributions to linear predictive coding for speech processing."
- "For pioneering work in metalorganic chemical vapor deposition, epitaxial-crystal reactor design, and demonstration of superior quality semiconductor devices grown by this process."
- "For crucial contributions to the use of amorphous silicon in low-cost, high-performance photovoltaic solar cells."
- "For pioneering contributions and leadership in research on switched-capacitor circuits for analog-digital conversion and filtering."
- "For the development and application of molecular beam epitaxy technology."
- "For development of an acoustic microscope capable of sub-micron resolution."
- "For contributions to the initiation and demonstration of the first picosecond optical pulse generator."

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- 1979 - PING KING TIEN  
Bell Laboratories  
Holmdel, NJ, USA  
"For contributions to integrated optics technology."
- 1978 - KUEN C. KAO  
ITT Corp  
Roanoke, VA, USA  
and JOHN B. MacCHESNEY  
Corning Glass Works  
Corning, NY, USA  
and ROBERT D. MAURER  
Bell Laboratories  
Murray Hill, NJ, USA  
"For making communication at optical frequencies practical by discovering, inventing and developing the materials, techniques and configurations for glass fiber waveguides."
- 1977 - HORST H. BERGER  
IBM Corp.  
Boeblingen, Germany  
and SIEGFRIED K. WIEDMANN  
Germany  
"For the invention and exploration of the Merged Transistor Logic, MTL."
- 1976 - HERBERT JOHN SHAW  
Stanford University  
Stanford, CA, USA  
"For contributions to the development of acoustics surface wave devices."
- 1975 - A. H. BOBECK  
and P. C. MICHAELIS  
and H. E. D. SCOVIL  
AT&T Bell Laboratories  
Murray Hill, NJ, USA  
"For the concept and development of single-walled magnetic domains (magnetic bubbles), and for recognition of their importance to memory technology."
- 1974 - WILLARD S. BOYLE  
AT&T Bell Laboratories  
Allentown, PA, USA  
and GEORGE E. SMITH  
AT&T Bell Laboratories  
Murray Hill, NJ, USA  
"For the invention of the charge-coupled device and leadership in the field of MOS device physics."
- 1973 - NICK HOLONYAK, JR.  
University of Illinois  
Urbana, IL, USA  
"For outstanding contributions to the field of visible light emitting diodes and diode lasers."
- 1972 - STEWART E. MILLER  
AT&T Bell Laboratories  
Holmdel, NJ, USA  
"For pioneering research in guided millimeter wave and optical transmission systems."
- 1971 - MARTIN RYLE  
University of Cambridge  
London, England  
"For his contributions in applying aperture synthesis to extend the capabilities of radio telescopes, thereby increasing man's knowledge of the Universe."
- 1970 - JOHN A. COPELAND  
AT&T Bell Laboratories  
Murray Hill, NJ, USA  
"For the discovery of the limited space-charge accumulation mode of oscillation."

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| 1969 - JOHN B. GUNN<br>IBM Corp.<br>Yorktown Heights, NY, USA           | "For contributions to solid state microwave power generation."   |
| 1968 - EMMETT N. LEITH<br>University of Michigan<br>Ann Arbor, MI, USA  | "For establishing the place of coherent optics in radar and communications system and for major advances in modern holography."  |
| 1967 - NO AWARD   |  |
| 1966 - PAUL K. WEIMER<br>RCA Labs.<br>Princeton, NJ, USA                | "For invention, development and applications of the thin film transistor."   |
| 1965 - WILLIAM R. BENNETT, JR.<br>Yale University<br>New Haven, CT, USA |  |
| 1964 - ARTHUR L. SCHAWLOW<br>Stanford University<br>Stanford, CA, USA   | "For his pioneering and continuing contributions in the field of optical masers."  |
| 1963 - IAN MUNRO ROSS   | "For contributions to the development of the epitaxial transistor and other semiconductor devices."  |
| 1962 - VICTOR H. RUMSEY   | "For basic contributions to the development of frequent independent antennas."   |
| 1961 - LEO ESAKI  | "For important contributions to the theory and technology of solid state devices, particularly as embodied in the tunnel diode."   |
| 1960 - J. A. RAJCHMAN   | "For contributions to the development of magnetic devices for information processing."   |
| 1959 - NICOLAAS BLOEMBERGEN<br>and C. H. TOWNES                         | "For fundamental and original contributions to the maser."   |
| 1958 - E. L. GINZTON  | "For his creative contribution to the generation and useful application of high energy at micro wave frequencies."   |
| 1957 - O. G. VILLARD, JR.   | "For his contributions in the field of meteor astronomy and ionosphere physics which led to the solution of outstanding problems in radio propagation."                                      |
| 1956 - KENNETH BULLINGTON   | "For his contributions to the knowledge of tropospheric transmission beyond the horizon, and to the application of the principles of such transmission to practical communications systems." |

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- 1955 - A. V. LOUGHREN "For his leadership and technical contributions in the formulation of the signal specification for compatible color television."
- 1954 - R. R. WARNECKE "For his many valuable contributions and scientific advancements in the field of electron tubes, and in particular, the magnetron class of traveling wave tubes."
- 1953 - J. A. PIERCE "For his pioneering and sustained outstanding contributions to radio navigation, and his related fundamental studies of radio wave propagation."
- 1952 - WILLIAM SHOCKLEY "In recognition of his contributions to the creation and development of the transistor."
- 1951 - R. B. DOME "For many technical contributions to the profession, but notably his contributions to the inter carrier sound system of television reception, wide band phase shift networks and various simplifying innovations in FM receiver circuits."
- 1950 - O. H. SCHADE "For outstanding contributions to analysis, measurement technique, and system development in the field of television and related optics."
- 1949 - C. E. SHANNON "For his original and important contributions to the theory of the transmission of information in the presence of noise."
- 1948 - S. W. SEELEY "For his development of ingenious circuits related to frequency modulation."
- 1947 - J. R. PIERCE "For his development of a traveling wave tube having both high gain and very great bandwidth."
- 1946 - ALBERT ROSE "For his contributions to the art of converting optical images to electrical signals, particularly the image orthicon."
- 1945 - P. C. GOLDMARK "For his contributions to the development of television systems, particularly in the field of color."
- 1944 - W. W. HANSEN "For his application of electromagnetic theory in radiation antennas, resonators, and electron bunching, and for the development of practical equipment and measurement techniques in the microwave field."

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- 1943 - W. L. BARROW "For his theoretical and experimental investigations of ultra high frequency propagation in wave guides and radiation from horns, and the application of these principles to engineering practice."
- 1942 - S. A. SCHELKUNOFF "For his contributions to the theory of electromagnetic fields in wave transmission and radiation."
- 1941 - P. T. FARNSWORTH "For his contributions in the field of applied electronics."
- 1940 - H. A. WHEELER "For his contributions to the analysis of wide band high frequency circuits particularly suitable for television."
- 1939 - H. T. FRIIS "For his investigations in radio transmission including the development of methods of measuring signals and noise and the creation of a receiving system for mitigating selective fading and noise interference."
- 1938 - G. C. SOUTHWORTH "For his theoretical and experimental investigations of the propagation of ultra high frequency waves through confined dielectric channels and the development of a technique for the generation and measurement of such waves."
- 1937 - W. H. DOHERTY "For his improvement in the efficiency of radio frequency power amplifiers."
- 1936 - B. J. THOMPSON "For his contribution to the vacuum tube art in the field of very high frequencies."
- 1935 - F. B. LLEWELLYN "For his analysis and disclosures of the effects and reactions within vacuum tubes at ultra high frequencies."
- 1934 - V. K. ZWORYKIN "For his contributions to the development of television."
- 1933 - HEINRICH BARKHAUSEN "For his work on oscillation circuits and particularly on that type of oscillator which now bears his name."
- 1932 - EDMOND BRUCE "For his theoretical investigations and field developments in the domain of directional antennas."
- 1931 - STUART BALLANTINE "For his outstanding theoretical and experimental investigations of numerous radio and acoustic devices."

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| 1930 - A. W. HULL     | "In recognition of the many advances in vacuum tube development which were due to his fundamental researches in the field of electronics."   |
| 1929 - E. V. APPLETON | "For his investigations in the field of wave propagation."   |
| 1928 - W. G. CADY     | "For his fundamental investigations in piezo electric phenomena and their application to radio technique."   |
| 1927 - A. H. TAYLOR   | "For his work in connection with the investigation of radio transmission phenomena."   |
| 1926 - RALPH BOWN     | "For researches and investigations into the more difficult element of wave transmission phenomena which have resulted in extensive and useful additions to existing knowledge."  |
| 1925 - FRANK CONRAD   | "For his research work in the short wave transmitting and receiving field."  |
| 1924 - J. R. CARSON   | "In recognition of his valuable contributions to alternating current circuit theory and, in particular, to his investigations of filter systems and of single side band telephony."  |
| 1923 - H. H. BEVERAGE | "For his work on directional antennas."  |
| 1922 - C. S. FRANKLIN | "For his investigations of short wave directional transmission and reception."   |
| 1921 - R. A. HEISING  | "In recognition of the publication of his basic work in the field of the signal modulation of an oscillator out put, and in particular of his invention and development of constant current modulations as first applied to radiotelephony." |
| 1920 - R. A. WEAGANT  | "For his experimental researches and results in the field of the reduction of atmospheric disturbances in radio reception."  |
| 1919 - L. F. FULLER   | "For his contributions to long distance radio communication."  |