IEEE ALEXANDER GRAHAM BELL MEDAL
RECIPIENTS

2020 RAJIV LAROIA
Founder & CTO, Light Company, Far Hills, New Jersey, USA
“For contributions to cellular wireless data systems.”

2019 TERESA HUAI-YING MENG
Professor Emeritus, Reif Weaver Dennis Professor in Electrical Engineering and Professor of Computer Science, Stanford, California, USA
“For technical contributions to and leadership in the development of wireless semiconductor technology.”

2018 NAMBIRAJAN SESHADRI
Former Chief Technology Officer, Broadcom Corporation, Irvine, California, USA
“For contributions to the theory and practice of wireless communications.”

2017 H. VINCENT POOR
Michael Henry Strater University Professor of Electrical Engineering, Princeton University, Princeton, NJ, USA
“For fundamental contributions to signal processing and its application to digital communications.”

2016 ROBERTO PADOVANI
Executive Vice President and Fellow, Qualcomm Technologies, San Diego, CA, USA
“For innovations enabling efficient, wideband, wireless access to the Internet, that is central to all third-generation cellular networks.”

2015 FRANK KELLY
Professor, University of Cambridge, Cambridgeshire, United Kingdom
“For creating principled mathematical foundations for the design and analysis of congestion control, routing, and blocking in modern communication networks.”

2014 DARIUSH DIVSALAR
Senior Research Scientist, Jet Propulsion Laboratory, Pasadena, CA, USA
“For fundamental contributions to the theory and practice of channel codes that transformed deep space and other forms of wireless communications.”

2013 ANDREW R. CHRAPLYVY
Optical Technologies Research vice-president, Alcatel-Lucent, Holmdel, NJ, USA
“For contributions to the science and technology of optical communications enabling high-speed wavelength division multiplexing through the mitigation of the effects of fiber nonlinearity.”

AND ROBERT WILLIAM TKACH
Director of the Advanced Photonics Research Department
<table>
<thead>
<tr>
<th>Year</th>
<th>Recipient Name</th>
<th>Affiliation</th>
<th>Citation</th>
</tr>
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<tbody>
<tr>
<td>2012</td>
<td>LEONARD KLEINROCK</td>
<td>Professor, Computer Science Department, University of California, Los Angeles, Los Angeles, CA, USA</td>
<td>&quot;For pioneering contributions to modeling, analysis, and design of packet-switching networks.&quot;</td>
</tr>
<tr>
<td>2011</td>
<td>AROGYASWAMI J. PAULRAJ</td>
<td>Professor (Emeritus), Stanford University, Stanford, CA, USA</td>
<td>&quot;For pioneering contributions to the application of multiantenna technology to wireless communication systems.&quot;</td>
</tr>
<tr>
<td>2010</td>
<td>JOHN M. CIOFFI</td>
<td>Hitachi America Professor of Electrical Engineering, Stanford University, Stanford, CA, USA</td>
<td>&quot;For pioneering discrete multitone modem technology as the foundation of the global DSL industry.&quot;</td>
</tr>
<tr>
<td>2009</td>
<td>ROBERT J. MCELIECE</td>
<td>Allan E. Puckett Professor and Professor of Electrical Engineering, California Institute of Technology, Pasadena, CA, USA</td>
<td>&quot;For fundamental contributions to the theory and practice of error-correcting codes and to the design of deep space telecommunication systems.&quot;</td>
</tr>
<tr>
<td>2008</td>
<td>GERARD J. FOSCHINI</td>
<td>Bell Labs Fellow, Wireless Communications Research Department, Bell Laboratories, Alcatel-Lucent, Holmdel, NJ, USA</td>
<td>&quot;For seminal contributions to the science and technology of multiple-antenna wireless communications.&quot;</td>
</tr>
<tr>
<td>2007</td>
<td>NORMAN ABRAMSON</td>
<td>Vice President and CTO of SkyWare, Inc., San Francisco, CA, USA</td>
<td>&quot;For contributions to the development of modern data networks through fundamental work in random multiple access&quot;</td>
</tr>
<tr>
<td>2006</td>
<td>JOHN M. WOZENCRAFT</td>
<td>Professor Emeritus, Electrical Engineering and Computer Science, MIT., Cambridge, MA, USA</td>
<td>&quot;For the development of sequential decoding and the signal space approach to digital communication.&quot;</td>
</tr>
<tr>
<td>2005</td>
<td>JIM K. OMURA</td>
<td>Technology Strategist, Gordon &amp; Betty Moore Foundation, San</td>
<td>&quot;For contributions to the theory of communication systems and the commercial applications of spread&quot;</td>
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Francisco, CA, USA spectrum radios and public key cryptography."

2004 NOT AWARDED

2003 JOACHIM HAGENAUER Munich University of Technology Munich, Germany "For contributions to soft decoding and its application to iterative decoding algorithm"

2002 TSUNE O NAKHARA Sumitomo Electric Industries Osaka, Japan "For pioneering work on the design and development of manufacturing systems for optical fibers."

2001 NOT AWARDED

2000 VLADIMIR A. KOTELNIKOV Russian Academy of Sciences Moscow, Russia "For fundamental contributions to signal theory."

1999 DAVID G. MESSERSCHMITT University of California, Berkeley Berkeley, CA, USA "For fundamental contributions to communications theory and practice, including VLSI for signal processing, and simulation and modeling software."

1998 RICHARD E. BLAHUT Dept. of Electrical & Computer Science University of Illinois, Urbana, IL, USA "For contributions to error-control coding, particularly by combining algebraic coding theory and digital transform techniques."

1997 VINTON G. CERF Sr. Vice President MCI Telecommunications Corp. Reston, VA, USA AND ROBERT E. KAHN Founder and President Corp for National Research Initiative (CNRI), Reston, VA, USA "For conceiving the Internet architecture and protocols, and for the vision and sustained leadership that led to the current Internet."

1996 TADAHIRO SEKIMOTO NEC Corporation, Tokyo, Japan "For pioneering contributions to digital satellite communications and industry leadership in developing digital communications."

1995 IRWIN M. JACOBS "For outstanding contributions to"
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QUALCOMM, Inc.,
San Diego, CA, USA
telecommunications, including leadership,
theory, practice and product
development."

1994 HIROSHI INOSE
NCSIS, Tokyo, Japan
"For pioneering contributions to digital
switching and modulation, and for
leadership in international
telecommunications."

1993 DONALD C. COX
Bellcore, Red Bank, NJ, USA
"For pioneering and leadership in personal
portable communications."

1992 JAMES L. MASSEY
Swiss Fed. Tech. University
Zurich, Switzerland
"For contributions to the theory and
practical implementation of forward-error-
correcting codes, multi-user
communications, and cryptographic
systems; and for excellence in engineering
education."

1991 C. CHAPIN CUTLER
The Compromise,
Waterford, ME, USA
"For the invention and development of
predictive coding of pictures and picture
sequences."

AND JOHN O. LIMB
Hewlett-Packard,
Cupertino, CA, USA

AND ARUN N. NETRAVALI
AT&T Bell Labs.,
Murray Hill, NJ, USA

1990 PAUL BARAN
Interfax Inc.,
Menlo Park, CA, USA
"For pioneering in Packet Switching."

1989 GERALD R. ASH
AND BILLY B. OLIVER
AT&T Bell Labs,
Holmdel, NJ, USA
"For contributions to the conception and
implementation of Dynamic Nonhierarchical
Routing (DNHR) in telecommunications
networks."

1988 ROBERT M. METCALFE
3Com Corp.,
Santa Clara, CA, USA
"For contributions to the invention,
standardization and commercialization of
local area networks -- especially the
Ethernet."

1987 JOEL S. ENGEL
Satellite Business Systems
"For fundamental contributions to the
theory, design and deployment of cellular
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<tr>
<td>1986</td>
<td>BERNARD WIDROW</td>
<td>Stanford University, Palo Alto, CA</td>
<td>&quot;For fundamental contributions to adaptive filtering, adaptive noise and echo cancellation, and adaptive antennas.&quot;</td>
</tr>
<tr>
<td>1985</td>
<td>CHARLES K. KAO</td>
<td>ITT Corp., Shelton, CT, USA</td>
<td>&quot;For pioneering contributions to optical fiber communications.&quot;</td>
</tr>
<tr>
<td>1984</td>
<td>ANDREW J. VITERBI</td>
<td>Linkabit Corp., San Diego, CA, USA</td>
<td>&quot;For fundamental contributions to telecommunication theory and practice and for leadership in teaching.&quot;</td>
</tr>
<tr>
<td>1983</td>
<td>STEPHEN O. RICE</td>
<td>Univ. of California, San Diego, CA</td>
<td>&quot;For his contributions to the fundamental understanding of communications systems and to the underlying mathematics, and for inspiring younger scientists and engineers.&quot;</td>
</tr>
<tr>
<td>1982</td>
<td>HAROLD A. ROSEN</td>
<td>Hughes Aircraft Company, El Segundo, CA</td>
<td>&quot;For pioneering contributions to, and leadership in, geostationary communication satellites.&quot;</td>
</tr>
<tr>
<td>1981</td>
<td>DAVID SLEPIAN</td>
<td>Bell Labs, Murray Hill, NJ, USA</td>
<td>&quot;For fundamental contributions to communication theory.&quot;</td>
</tr>
<tr>
<td>1980</td>
<td>RICHARD R. HOUGH</td>
<td>AT&amp;T, Basking Ridge, NJ, USA</td>
<td>&quot;For his contributions to the nationwide and international telephone network and, particularly, the introduction of electronic switching therein.&quot;</td>
</tr>
<tr>
<td>1979</td>
<td>A. CHRISTIAN JACOBIAEUS</td>
<td>Telefonaktiebolaget Stockholm, Sweden</td>
<td>&quot;For pioneering work in the theory of switching systems and technical leadership in the development of telecommunication systems.&quot;</td>
</tr>
<tr>
<td>1978</td>
<td>M. ROBERT AARON</td>
<td>Bell Labs, Holmdel, NJ, USA</td>
<td>&quot;For personal contributions to, and leadership in, the practical realization of mobile communications systems.&quot;</td>
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AND  JOHN S. MAYO
    Bell Labs, Murray Hill, NJ, USA

AND  ERIC E. SUMNER
    Bell Labs, Whippany, NJ, USA

1977  EBERHARDT RECHTIN
    Hewlett-Packard Co., Palo Alto, CA, USA

"For pioneering and lasting contributions to deep-space-vehicle communications technology and for leadership in defense telecommunications."

1976  AMOS E. JOEL, JR.

AND  WILLIAM KEISTER

AND  RAYMOND W. KETCHLEDGE
    Bell Telephone Labs, Inc., Holmdel, NJ, USA

"For conception and development of Electronic Switching Systems and their effective introduction into a nation-wide telephone system."