1. **IEEE Medal of Honor**, for an exceptional contribution or an extraordinary career in IEEE fields of interest, sponsored by the *IEEE Foundation*, to

**Recipient**

G. David Forney, Jr. (LFIEEE)—Adjunct Professor, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA

**Citation**

“For pioneering contributions to the theory of error-correcting codes and the development of reliable high-speed data communications.”

2. **IEEE Alexander Graham Bell Medal**, for exceptional contributions to the advancement of communications sciences and engineering, sponsored by Bell Labs, Nokia, to

**Recipient**

Roberto Padovani (FIEEE)—Executive Vice President and Fellow, Qualcomm Technologies, San Diego, California, USA

**Citation**

“For innovations enabling efficient, wideband, wireless access to the Internet, that is central to all third-generation cellular networks.”

3. **IEEE Edison Medal**, for a career of meritorious achievement in electrical science, electrical engineering, or the electrical arts, sponsored by Samsung Electronics Co., Ltd., to

**Recipient**

Robert W. Brodersen (FIEEE)—Professor Emeritus, University of California, Berkeley, Berkeley, California, USA

**Citation**

“For contributions to integrated systems for wired and wireless communications, including wireless connectivity of personal devices.”

4. **IEEE Medal for Environmental and Safety Technologies**, for outstanding accomplishments in the application of technology in the fields of interest to IEEE that improve the environment and/or public safety, sponsored by *Toyota Motor Corporation*, to
**Co-recipients**

MASAHIKO MIYAKI (non-member)—Executive Vice President, DENSO Corporation, Kariya-shi, Japan

AND

YUKIHIRO SHINOHARA (non-member)—Executive Director, DENSO Corporation, Kariya-shi, Japan

AND

KATSUHIKO TAKEUCHI (non-member)—Head of Business Unit, DENSO Corporation, Kariya-shi, Japan

**Citation**

“For development of electronic multipoint fuel-injection systems, enabling fuel-efficient and low-emission diesel engines.”

5. **IEEE RICHARD W. HAMMING MEDAL**, for exceptional contributions to information sciences, systems, and technology, sponsored by Qualcomm, Inc., to

**Recipient**

ABBAS EL GAMAL (FIEEE)—Professor and Department Chair, Department of Electrical Engineering, Stanford University, Stanford, California, USA

**Citation**

“For contributions to network multi-user information theory and for wide ranging impact on programmable circuit architectures.”

6. **IEEE MEDAL FOR INNOVATIONS IN HEALTHCARE TECHNOLOGY**, for outstanding contributions and/or innovations in engineering within the fields of medicine, biology, and healthcare technology, sponsored by the IEEE Engineering in Medicine and Biology Society, to

**Recipient**

CHARLES A. MISTRETTA (non-member)—Professor Emeritus, Departments of Medical Physics and Radiology, University of Wisconsin-Madison, Madison, Wisconsin, USA

**Citation**

“For the development of imaging instrumentation and techniques that have transformed the diagnosis and treatment of vascular disease.”

7. **IEEE JACK S. KILBY SIGNAL PROCESSING MEDAL**, for outstanding achievements in signal processing, sponsored by Texas Instruments, Inc., to
**Recipient**

**LOUIS SCHARF** (LFIEEE)—Research Professor of Mathematics and Emeritus Professor of Electrical and Computer Engineering, Colorado State University, Fort Collins, Colorado, USA

**Citation**

“For pioneering and sustained contributions to statistical signal processing and its practice.”

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8. **IEEE/RSE JAMES CLERK MAXWELL MEDAL**, for groundbreaking contributions that have had an exceptional impact on the development of electronics and electrical engineering or related fields, funded by Cirrus Logic, Inc., to

**Recipient**

**GEOFFREY HINTON** (non-member)—Professor of Computer Science, University of Toronto, Toronto, Ontario, Canada

**Citation**

“For pioneering and sustained contributions to machine learning, including developments in deep neural networks.”

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9. **IEEE JAMES H. MULLIGAN, JR. EDUCATION MEDAL**, for a career of outstanding contributions to education in the fields of interest of IEEE, sponsored by MathWorks; Pearson; and the IEEE Life Members Fund, to

**Recipient**

**SIMON S. HAYKIN** (LFIEEE)—Distinguished University Professor, Electrical and Computer Engineering, McMaster University, Hamilton, Ontario, Canada

**Citation**

“For contributions to engineering education in adaptive signal processing and communication.”

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10. **IEEE JUN-ICHI NISHIZAWA MEDAL**, for outstanding contributions to material and device science and technology, including practical application, sponsored by The Federation of Electric Power Companies, Japan, to

**Recipient**

**MASAYOSHI ESASHI** (MIEEE)—Professor, Tohoku University, Sendai, Miyagi, Japan

**Citation**

“For pioneering contributions to micro-electro-mechanical systems (MEMS), and their uses in automobiles, cellular phones, industrial equipment, and medical devices.”
11. **IEEE ROBERT N. NOYCE MEDAL**, for exceptional contributions to the microelectronics industry, sponsored by *Intel Foundation*, to

**Recipient**

TAKUO SUGANO (LFIEEE)—Professor Emeritus, University of Tokyo, Tokyo, Japan

**Citation**

“For contributions to and leadership in the research and development of the science and technology of semiconductor devices.”

12. **IEEE DENNIS J. PICARD MEDAL FOR RADAR TECHNOLOGIES AND APPLICATIONS**, for outstanding accomplishments in advancing the fields of radar technologies and their applications, sponsored by *Raytheon Company*, to

**Recipient**

NADAV LEVANON (LFIEEE)—Professor, Tel Aviv University, Tel Aviv, Israel

**Citation**

“For contributions to radar signal design and analysis, pulse compression, and signal processing.”

13. **IEEE MEDAL IN POWER ENGINEERING**, for outstanding contributions to the technology associated with the generation, transmission, distribution, application, and utilization of electric power for the betterment of society, sponsored by the *IEEE Industry Applications, Industrial Electronics, Power Electronics, and Power & Energy Societies*, to

**Recipient**

ARUN G. PHADKE (LFIEEE)—University Distinguished Professor Emeritus, Research Professor, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA

**Citation**

“For contributions to synchrophasor technology for monitoring, control, and protection of electric power systems.”

14. **IEEE SIMON RAMO MEDAL**, for exceptional achievement in systems engineering and systems science, sponsored by *Northrop Grumman Corporation*, to

**Co-recipients**

JOHN P. LEHOCZKY (MIEEE)—Thomas Lord Professor of Statistics and Mathematical Sciences, Carnegie Mellon University, Pittsburgh, Pennsylvania, USA

AND

RAGUNATHAN RAJKUMAR (FIEEE)—George Westinghouse Professor, Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania, USA
LUI SHA (FIEEE)—Donald B. Gillies Professor, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, Illinois, USA

Citation
“For technical leadership and contributions to fundamental theory, practice, and standardization for engineering real-time systems.”

15. IEEE JOHN VON NEUMANN MEDAL, for outstanding achievements in computer-related science and technology, sponsored by IBM Corporation, to

Recipient
CHRISTOS H. PAPADIMITRIOU (MIEEE)—Professor, University of California, Berkeley, Berkeley, California, USA

"For providing a deeper understanding of computational complexity and its implications for approximation algorithms, artificial intelligence, economics, database theory, and biology."

16. IEEE CORPORATE INNOVATION AWARD, for an outstanding and exemplary innovation by an industrial entity, governmental or academic organization, or other corporate body, within the fields of interest to the IEEE, sponsored by IEEE, to

Recipient
INTEL CORPORATION—Hillsboro, Oregon, USA

Citation
“For pioneering the use of high-k metal gate and tri-gate transistor technologies in high-volume manufacturing.”

17. IEEE ERNST WEBER MANAGERIAL LEADERSHIP AWARD, for exceptional managerial leadership in the fields of interest to the IEEE, sponsored by IEEE, to

Recipient
DAVID FAIRBANKS WELCH (FIEEE)—President, Infinera Corporation, Sunnyvale, California, USA

Citation
“For leadership in enabling the growth of cloud-based services and the Internet in optical transport networks.”

18. IEEE RICHARD M. EMBERSON AWARD, for distinguished service to the development, viability, advancement, and pursuit of the technical objectives of IEEE, sponsored by the IEEE Technical Activities Board, to
**Recipient**

**STEPHEN WEINSTEIN** (LFIEEE)—President, Communication Theory & Technology Consulting, New York, New York, USA

**Citation**

“For contributions to IEEE Publications, Awards, and globalization.”

19. **IEEE HARADEN PRATT AWARD**, for outstanding service to the IEEE, sponsored by the *IEEE Foundation*, to

**Recipient**

**MOSHE KAM** (FIEEE)—Dean of the Newark College of Engineering, New Jersey Institute of Technology, Newark, New Jersey, USA

**Citation**

“For original and high-impact contributions to IEEE's Educational Activities, expanding IEEE's global reach and effectiveness.”

20. **IEEE HONORARY MEMBERSHIP**, elected by the Board of Directors from among those individuals, not members of IEEE, who have rendered meritorious service to humanity in IEEE’s designated fields of interest, sponsored by *IEEE*, to

**Recipients (2)**

**SERGE HAROCHE** (non-member)—Professor, Collège de France, Paris, France

**Citation**

“For the development of cavity quantum electrodynamics, leading to fundamental quantum physics studies and to a wide range of applications.”

**RODOLFO ZICH** (non-member)—President, Torino Wireless Foundation, Torino, Italy

**Citation**

“For leadership in the global integration of electrical and electronics engineering education and research.”