

IEEE CLEDO BRUNETTI AWARD

RECIPIENTS

2019 – DANIEL C. EDELSTEIN
IBM Fellow, IBM T.J. Watson
Research Center, Yorktown
Heights, New York, USA

“For contributions to manufacturable,
reliable, and scalable Cu interconnect and
low-k dielectric technology for CMOS.”

AND

ALFRED GRILL
IBM Fellow, IBM T.J. Watson
Research Center, Yorktown
Heights, New York, USA

AND

CHAO-KUN HU
Research Staff Member, IBM T.J.
Watson Research Center,
Yorktown Heights, New York, USA

2018 - SIEGFRIED SELBERHERR
Professor, Vienna University of
Technology, Institute for
Microelectronics, Vienna, Austria

“For pioneering contributions to Technology
Computer Aided Design.”

2017- GUIDO GROESENEKEN
Professor, Catholic University of
Leuven, and Fellow, IMEC, Leuven,
Belgium

“For contributions to the characterization
and understanding of the reliability physics
of advanced MOSFET nanodevices.”

2016 – AKIRA TORIUMI
Professor, The University of Tokyo,
Tokyo, Japan

“For contributions to CMOS device design
from materials engineering to device
physics.”

2015 - HIROSHI IWAI
Professor, Tokyo Institute of
Technology, Yokohama, Kanagawa,
Japan

“For contributions to the scaling of CMOS
devices.”

2014 – MARTIN VAN DEN BRINK
Vice President, ASML,
Veldhoven, The Netherlands

“For designing new lithography tool
concepts and bringing these to the market,
enabling micrometer to nanometer
imaging.”

2013 – GIORGIO BACCARANI
Full Professor, University of

“For contributions to scaling theory and
modeling of metal oxide semiconductor

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- Bologna, Bologna, Italy (MOS) devices.”
- 2012 - YAN BORODOVSKY
Intel Senior Fellow, Director of
Advanced Lithography, Intel
Corporation, Hillsboro, OR, USA
AND
SAM SIVAKUMAR
Intel Fellow, Director of
Lithography, Intel Corporation,
Hillsboro, OR, USA
“For contributions to developing and
implementing innovative lithographic and
patterning equipment and processes to
enable cost-effective scaling for logic
technologies.”
- 2011 – MASSIMO V. FISCHETTI
Professor, University of
Massachusetts, Amherst, MA, USA
AND
DAVID J. FRANK
Research Staff Member, IBM T. J.
Watson Research Center,
Yorktown Heights, NY, USA
AND
STEVEN E. LAUX
Research Staff Member, IBM T. J.
Watson Research Center,
Yorktown Heights, NY, USA
“For contributions to the fundamental
understanding of the physics, design and
scaling of nanosized electronic devices.”
- 2010 – GHAVAM SHAHIDI
IBM Fellow Director of Silicon Tech
IBM TJ Watson Research Ctr
Yorktown Heights, NY, USA
“For contributions to and leadership in the
development of silicon-on-insulator CMOS
technology.”
- 2009 – BURN JENG LIN
Senior Director of Micropatterning
Division, TSMC, Ltd. Hsin-Chu,
Taiwan
“For contributions to immersion lithography
for the manufacture of integrated circuit
devices.”
- 2008 – MICHEL BRUEL
Deputy Director of CEA-LETI,
Director of Research, CEA, Cedex,
France
“For inventing Smart Cut™ layer transfer
technology that enabled widespread
adoption of SOI for CMOS circuits.”
- 2007 – SANDIP TIWARI
Professor, Electrical and Computer
Engineering, Cornell University
Ithaca, NY
“For pioneering contributions to nano-
crystal memories and to quantum effect
devices.”
- 2006 – SUSUMU NAMBA
Professor, Nagasaki Institute of
“For contributions to ion-beam and optical
technologies for application to

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- Applied Science
Nagasaki, Japan
- 2005 – WILLIAM G. OLDHAM
Professor Emeritus, University of
California, Berkeley
Berkeley, CA
- 2004 – STEPHEN Y. CHOU
Professor, Department of Electrical
Engineering
Princeton University
Princeton, NJ
- 2003 - ANDREW R. NEUREUTHER
Professor, EECS, University of
California, Berkeley, CA
- 2002 – MARK LUNDSTROM
SUPRIYO DATTA
Purdue University, West Lafayette,
IN
- 2001 – R. FABIAN W. PEASE
Stanford University
Stanford, CA
- 2000 - ROBERT E. FONTANA
IBM Almaden Research Center
San Jose, CA
- 1999 - DAVID K. FERRY
Arizona State Univ., Tempe, AZ
- 1998 - ROGER T. HOWE
RICHARD S. MULLER
University of California, Berkeley,
CA
- 1997 - DIETER P. KERN
GEORGE A. SAI-HALASZ
MATTHEW R. WORDEMAN
IBM Research, Yorktown Heights,
- semiconductor devices.”
- “For pioneering contributions to lithographic engineering and to high-density isolation technology.”
- “For the invention and development of tools for nanoscale patterning, especially nanoimprint lithography, and for the scaling of devices into new physical regimes.”
- “For pioneering contributions to modeling and simulation of the lithographic materials, processes, and tools used in microelectronics manufacturing.”
- “For significant contributions to the understanding and innovative simulation of nano-scale electronic devices.”
- “For advancing high resolution patterning technologies, high performance thermal management, and scanning electron microscopy for microelectronics.”
- “For contributions to micro fabrication techniques for the manufacture of thin film and giant magnetoresistive heads used in hard disk drives.”
- “For fundamental contributions to the theory and development of nanostructured devices.”
- “For leadership and pioneering contributions to the field of microelectromechanical systems.”
- “For the development of sub-0.1 micron MOSFET devices and circuits.”

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| 1996 - MITSUMASA KOYANAGI
Tohoku Univ Intell Sys Lab
Sendai, Japan | "For pioneering research and development of the three dimensional stacked capacitor DRAM cell." |
| 1995 - HENRY I. SMITH
MIT, Cambridge, MA | "For contributions to microfabrication science and technology, notably microlithography." |
| 1994 - EIJI TAKEDA
Hitachi Ltd.
Tokyo, Japan | "For pioneering contributions to the characterization and understanding of hot-carrier effects in MOS devices." |
| 1993 - TAKAFUMI NAMBU
MITSURU IDA
KAMON YOSHIYUKI
SONY Corporation, Tokyo, Japan | "For the development of the WALKMAN, the realization of a totally new concept of miniaturization of consumer electronics." |
| 1992 - DAVID A. THOMPSON
IBM Corp.
San Jose, CA | "For pioneering work in miniature magnetic devices for data storage, including the invention, design and development of thin-film and magnetoresistive recording heads." |
| 1991 - HIDEO SUNAMI
Hitachi, Ltd., Tokyo, Japan | "For contributions in the invention and development of the trench capacitor DRAM cell." |
| 1990 - ELSE KOOI
Philips Research Labs.
Sunnyvale, CA | "For invention and development of the process for localized oxidation of silicon using a silicon nitride mask, which enabled greatly reduced dimensions in VLSI circuits." |
| 1989 - SHUN-ICHI IWASAKI
Tohoku University, Sendai, Japan | "For contributions to the miniaturization of magnetic recording systems." |
| 1988 - IRVING AMES - IBM Corp., NY
FRANCOIS M. d'HEURLE
RICHARD E. HORSTMANN | "For the invention of electromigration-resistant copper-doped aluminum metallurgy." |
| 1987 - MICHAEL HATZAKIS
IBM Corp., Yorktown Heights, NY | "For fundamental contributions to the patterning techniques of submicron electron devices." |
| 1986 - RICHARD M. WHITE | "For invention of surface acoustic wave |

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| Univ of California, Berkeley, CA | electronic devices for signal processing applications." |
| 1985 - ALEC N. BROERS
IBM Corporation
Hopewell Junction, NY | "For leadership and pioneering contributions to the technology and applications of electron beams to fine line lithography." |
| 1984 - HARRY W. RUBINSTEIN
Sprague Electric Co.
Grafton, Wisconsin | "For early key contributions to the development of printed components and conductors on a common insulating substrate." |
| 1983 - ABE OFFNER
Perkin-Elmer Corp.
Wilton, CT | "For the invention and design of the optics which made possible the projection lithography systems that were key to advancing integrated circuit manufacture." |
| 1982 - ROBERT H. DENNARD
IBM Corp.
Yorktown Heights, NY | "For the invention of the one-transistor dynamic random access memory cell and for contributions to scaling of MOS devices." |
| 1981 - DONALD R. HERRIOTT
Bell Labs.
Murray Hill, NJ | "For key contributions to the development of a practical electron beam system for fabrication of integrated circuit masks and to other aspects of microlithography." |
| 1980 - MARCIAN E. HOFF, JR.
INTEL Corp.
Santa Clara, CA | "For the conception and development of the microprocessor." |
| 1979 - GEOFFREY W. A. DUMMER
Worcestershire, England
AND
PHILIP J. FRANKLIN
GSA, Federal Supply Service
Washington, DC | "For contributions to materials development and fabrication techniques for miniature passive electronic components and assemblies." |
| 1978 - JACK S. KILBY
Texas Instrument, Dallas, TX
ROBERT N. NOYCE
Intel Corporation, Santa Clara, CA | "For contributions to miniaturization through inventions and the development of integrated circuits." |