

## 2013 Newly Elevated Fellows

Ramachandra Achar  
Carleton University  
Ottawa, ON, Canada

*for contributions to interconnect and signal integrity analysis in high-speed designs*

Scott T. Acton  
University of Virginia  
Charlottesville, VA, USA

*for contributions to biomedical image analysis*

Robert Campbell Aitken  
ARM -The Architecture for the Digital World  
San Jose, CA, USA

*for contributions to testing and diagnosis of integrated circuits*

Stephen B. Alexander  
Ciena Corporation  
Linthicum, MD, USA

*for contributions to optical communication technologies, systems, and architectures*

Jeffrey G. Andrews  
The University of Texas at Austin  
Austin, TX, USA

*for contributions to cellular and ad-hoc wireless communications*

Hiroyuki Arai  
Yokohama National University  
Yokohama-city, Kanagawa, Japan

*for contributions to the design and analysis of low profile antennas for mobile communications*

Carter M. Armstrong  
L-3 Communications  
San Carlos, CA, USA

*for technical leadership in the development of high power microwave and millimeter-wave radiation sources, especially their power modules*

## 2013 Newly Elevated Fellows

Rolf Alfons Aschenbrenner  
Fraunhofer IZM  
Berlin, Germany

*for contributions to microelectronic packaging*

Gaetano Assanto  
University "Roma Tre"  
Rome, Italy

*for contributions to nonlinear optical guides and spatial solitons*

Farrokh Ayazi  
Georgia Institute of Technology  
Atlanta, GA, USA

*for contributions to micro-electro-mechanical resonators and resonant gyroscopes*

Ralph H. Baer  
R. H. Baer Consultants  
Manchester, NH, USA

*for contributions to the creation, development and commercialization of interactive video games*

Salvo Baglio  
University of Catania  
Catania, Italy

*for contributions to development of microsensors and magnetometers*

Russel Jacob Baker  
Boise State University  
Boise, ID, USA

*for contributions to the design of memory integrated circuits*

Alexander A. Balandin  
University of California - Riverside  
Riverside, CA, USA

*for contributions to characterization of thermo-electric properties of semiconductor nanostructures and graphene*

## 2013 Newly Elevated Fellows

Peter Michael Balma  
Nutley, NJ, USA

*for leadership in developing technical guides for electric power equipment*

Andrew R. Barron  
Yale University  
New Haven, CT, USA

*for contributions to information theory and statistics*

John Edward Barth  
Williston, VT, USA

*for contributions to design and development of embedded dynamic random access memory*

Sanjoy K. Baruah  
The University of North Carolina at Chapel Hill  
Chapel Hill, NC, USA

*for contributions to the design of real-time embedded systems*

Khosrow Behbehani  
University of Texas at Arlington  
Arlington, TX, USA

*for contributions to development of respiratory therapy devices in chronic pulmonary diseases  
chronic pulmonary diseases*

Amine Bermak  
Hong Kong University of Science and Technology  
Clear Water Bay, Kowloon, Hong Kong

*for contributions to sensing and processing of vision and olfactory circuits and systems*

Robert Emanuel Berry  
Los Altos Hills, CA, USA

*for leadership in high capacity satellite systems*

## 2013 Newly Elevated Fellows

Jacek A. Blazewicz  
Poznan University of Technology  
Poznan, Poland

*for contributions to combinatorial models of task scheduling*

Vincent Daniel Blondel  
Universit Catholique de Louvain (UCL)  
Louvain-la-Neuve, Belgium

*for contributions to computational analysis of systems and networks*

Enrico Bocchieri  
AT&T Research  
Florham Park, NJ, USA

*for contributions to computational models for speech recognition*

Wolfgang M. Boesch  
Institut fuer Hochfrequenztechnik  
Graz, Austria

*for technical leadership in microwave active devices and circuits*

Maurice Emile Borgeaud  
European Space Agency (ESA)  
Frascati, Rome, Italy

*for leadership in microwave remote sensing from spaceborne systems and retrieval of bio-physical and geo-physical parameters for land applications*

Rodney Allen Brooks  
Heartland Robotics  
Cambridge, MA, USA

*for contributions to theory and practice of behavioral robotics and artificial intelligence*

Martin Buehler  
Vecna Technologies  
Watertown, MA, USA

*for contributions to design and control of legged robots*

## 2013 Newly Elevated Fellows

David Roger Bull  
University of Bristol  
Bristol, South Glos., UK

*for contributions in video analysis, compression and communications*

Ramon Caceres  
AT&T Labs  
Florham Park, NJ, USA

*for contributions to mobile computing and communications*

Vince Daniel Calhoun  
The Mind Research Network  
Albuquerque, NM, USA

*for contributions to data-driven processing of multimodal brain imaging and genetic data*

Om-Prakash Narayan Calla  
International Centre for Radio Science  
Jodhpur, Rajasthan, India

*for leadership in space applications of microwave technology and remote sensing*

Jan Camenisch  
IBM Zurich Research Lab  
Rueschlikon, Switzerland

*for contributions to privacy-enhancing cryptographic protocols*

Charles F. Campbell  
TriQuint Semiconductor  
Richardson, TX, USA

*for contributions to microwave and millimeter-wave integrated circuits*

Gail Carpenter  
Boston University  
Boston, MA, USA

*for contributions to adaptive resonance theory and modeling of Hodgkin-Huxley neurons*

## 2013 Newly Elevated Fellows

Robert Henry Caverly  
Villanova University  
Villanova, PA, USA

*for contributions to modeling and design of radio frequency switching devices*

Kwok Kee Chan  
Chan Technologies Inc.  
Brampton, ON, Canada

*for development of planar lens beamforming networks and broadband antennas*

Mansun Chan  
Hong Kong University of Science and Technology  
Clear Water Bay, Kowloon, Hong Kong

*for contributions to CMOS device modeling*

Yao-Wen Chang  
National Taiwan University  
Taipei, Taiwan

*for contributions to VLSI physical design and manufacturability*

Raja Chatila  
ISIR - CNRS and University  
Pierre and Marie Curie  
Paris, France

*for contributions to robot navigation and cognitive robotics*

Kwok Tong Chau  
The University of Hong Kong  
Hong Kong, China

*for contributions to energy systems for electric and hybrid vehicles*

Francois Chaumette  
Inria Rennes Bretagne Atlantique - IRISA  
Rennes, France

*for contributions to vision-based robot control*

## 2013 Newly Elevated Fellows

Kuo-Ning Chiang  
National Tsing Hua University  
HsinChu, Taiwan

*for contributions to design and reliability of electronic packaging*

Jeffrey R. Childress  
Hitachi Global Storage Technologies  
San Jose, CA, USA

*for contributions to nanostructured materials and their applications in magnetic recording*

Tzi-Dar Chiueh  
National Taiwan University  
Taipei, Taiwan

*for contributions to baseband processing integrated circuits for communications systems*

Peter Sienpin Chow  
ASSIA, Inc.  
Los Alto, CA, USA

*for contributions to digital subscriber line technology*

Andrzej Cichocki  
RIKEN Brain Science Institute  
Wako, Saitama, Japan

*for contributions to applications of blind signal processing and artificial neural networks*

David S. Cochran  
Mt. View, CA, USA

*for contributions to design, architecture and algorithms for HP-35, the first pocket scientific calculator*

Gerard Denis Cohen  
Telecom ParisTech (ENST)  
Paris, France

*for contributions to combinatorial aspects of coding theory*

## 2013 Newly Elevated Fellows

Jonathan Hudson Connell  
IBM T.J. Watson Research Center  
Hawthorne, NY, USA

*for contributions to security and privacy in biometrics*

Marco Corsi  
Texas Instruments Inc  
Parker, TX, USA

*for development of high-speed amplifiers and analog to-digital convertors*

Max H.M. Costa  
University of Campinas - Unicamp  
Campinas, San Paolo, Brazil

*for contributions to multiterminal information theory*

Paul William Coteus  
IBM T.J. Watson Research Center  
Yorktown Heights, NY, USA

*for contributions to packaging for high performance computing systems*

David Robert Sime Cumming  
University of Glasgow  
Glasgow, UK

*for contributions to integrated sensors and microsystem technology*

Mihai Datcu  
DLR, Oberpfaffenhofen / Germany  
Wessling, Germany

*for contributions to information mining of high resolution synthetic aperature radar and optical earth observation images*



## 2013 Newly Elevated Fellows

Suman Datta  
Penn State University  
University Park, PA, USA

*for contributions to high-performance advanced silicon and compound semiconductor transistor technologies*

Antonio De Maio  
University of Naples "Federico II"  
Napoli, Italy

*for contributions to radar signal processing*

Louis A. Dessaint  
Ecole de Technologie Suprieure  
Montreal, QC, Canada

*for contributions to simulation and control of power systems and electric machines*

Suhas Diggavi  
University of California, Los Angeles  
Los Angeles, CA, USA

*for contributions to wireless networks and systems*

Yujie J. Ding  
Lehigh University  
Bethlehem, PA, USA

*for contributions to high terahertz power generators*

Branislav V. Djokic  
National Research Council of Canada  
Ottawa, ON, Canada

*for contributions to precision metrology in electrical power applications*

Matthew B. Dwyer  
University of Nebraska - Lincoln  
Lincoln, NE, USA

*for contributions to specification, testing, analysis, and verification of concurrent software*

## 2013 Newly Elevated Fellows

Ahmed Mostafa Elantably  
Carmel, IN, USA

*for contributions to AC machinery for electrical traction*

Yonina C. Eldar  
Technion - Israel Institute of Technology  
Haifa, Israel

*for contributions to compressed sampling, generalized sampling, and convex optimization*

Ayman M. EL-Refaie  
GE Global Research Center  
Niskayuna, NY, USA

*for contributions to high-speed permanent magnet machines for transportation and aerospace systems*

Ali Emadi  
McMaster University  
Hamilton, ON, Canada

*for contributions to electric power conversion and control for electric and hybrid vehicles*

Takatomo Enoki  
Nippon Telegraph and Telephone Corporation, NTT  
Atsugi-shi, Kanagawa, Japan

*for contributions to compound semiconductor high speed integrated circuits for optical and wireless communication systems*

Johan Heinrich R. Enslin  
University of North Carolina at Charlotte  
Charlotte, NC, USA

*for contributions to integration of renewable energy into power networks and using power electronics*

David Esseni  
University of Udine  
Udine, Italy

*for contributions to quasi-ballistic transport technology in metal oxide silicon transistors*

## 2013 Newly Elevated Fellows

Rene-Jean Essiambre  
Bell Labs, Alcatel-Lucent  
Holmdel, NJ, USA

*for contributions to fiber nonlinearities in optical telecommunication systems*

Bruce Behruz Fardanesh  
New York Power Authority (NYPA)  
White Plains, NY, USA

*for contributions to phasor measurement technology and Flexible AC Transmission Systems*

Aaron Fenster  
Western University  
Robarts Research Institute  
London, ON, Canada

*for contributions to medical Imaging and ultrasound-guided intervention*

Elena Ferrari  
Universit degli Studi dellInsubria  
Varese, Italy

*for contributions to security and privacy for data and applications*

Jeffrey R. Foerster  
Intel Corporation  
Portland, OR, USA

*for leadership in wireless personal area networking*

Giles Martin Foody  
University of Nottingham  
Nottingham, Nottinghamshire, UK

*for contributions to the remote sensing of land cover*

Paolo Ettore Gamba  
University of Pavia  
Pavia, Italy

*for contributions to very high resolution remote sensing image processing of urban areas*

## 2013 Newly Elevated Fellows

Erwin Carl Gangl  
CACI, Inc.  
Centerville, OH, USA

*for development of digital avionics intra-communication systems and Mil-Std-1553*

David Garlan  
Carnegie Mellon University  
Pittsburgh, PA, USA

*for contributions to software architecture*

Alan Dale George  
University of Florida  
Gainesville, FL, USA

*for contributions to reconfigurable and high-performance computing*

Saeed S. Ghassemzadeh  
AT&T Labs--Research  
Florham Park, NJ, USA

*for contributions to measurement and modeling of broadband wireless channels and their applications to system design*

Gerard Ghibaudo  
IMEP-LAHC  
Grenoble, France

*for contributions to electron device characterization and modeling*

Georgios Ginis  
ASSIA, Inc.  
San Mateo, CA, USA

*for contributions to transmission optimization in digital subscriber loops*

Dimitris Gizopoulos  
University of Athens  
Athens, Greece

*for contributions to self-testing and on-line error detection of microprocessor architectures*

## 2013 Newly Elevated Fellows

Fred Glover  
Opt Tek Systems, Inc.  
Boulder, CO, USA

*for contributions to computer based optimization*

Lalit Kumar Goel  
Nanyang Technological University  
Singapore, Singapore

*for contributions to the development and application of reliability techniques in electric power systems*

Kenneth Goodson  
Stanford University  
Stanford, CA, USA

*for contributions to thermal management of electronic packaging*

Clément Gosselin  
Universit Laval  
Quebec, QC, Canada

*for contributions to parallel robotic mechanisms and to underactuated robotic hands*

Leonid Grcev  
Ss. Cyril and Methodius University  
Skopje, Macedonia

*for contributions to transient electromagnetic modeling of grounding systems*

Marshall Greenspan  
Northrop Grumman Electronic Systems  
Fairfield, CT, USA

*for contributions to design and development multi-channel radars*

Christine Guillemot  
INRIA, Institut National de Recherche  
en Informatique et Automatique  
Rennes-Cedex, France

*for contributions to image and video compression*

## 2013 Newly Elevated Fellows

Ruyan Guo  
University of Texas at San Antonio  
San Antonio, TX, USA

*for contributions to understanding of polarization phenomena in ferroelectric solid-solution systems*

Hani Hagrais  
University of Essex  
Colchester, UK

*for contributions to fuzzy systems*

Alexander M. Haimovich  
New Jersey Institute of Technology-NJIT  
North Brunswick, NJ, USA

*for contributions to signal processing in adaptive arrays and multiple sensor radar*

Jung Han  
Yale University  
New Haven, CT, USA

*for contributions to epitaxial technologies for wide bandgap semiconductor materials and devices*

Kenneth A. Hansen  
Freescale Semiconductor, Inc.  
Lago Vista, TX, USA

*for technical leadership in wireless communications*

Yang Hao  
Queen Mary University of London  
Barnet, Hertfordshire, UK

*for contributions to antennas and propagation for body-centric wireless communications*

Jayant Ramaswamy Haritsa  
Indian Institute of Science, Bangalore  
Bangalore, Karnataka, India

*for contributions to data management systems*

## 2013 Newly Elevated Fellows

James Hayward Harlow  
Harlow Engineering Associates  
Mentone, AL, USA

*for leadership in IEEE technical and standardization committees on transformer technology*

Sailing He  
The Royal Institute of Technology (Sweden)  
Stockholm, Sweden

*for contributions to subwavelength photonics*

Akira Hirose  
The University of Tokyo  
Bunkyo-ku, Tokyo, Japan

*for contributions to theory and radar applications of complex-valued neural networks*

Hakan Hjalmarsson  
Royal Institute of Technology (KTH), Sweden  
Stockholm, Sweden

*for contributions to data-based controller design*

James C. Hoe  
Carnegie Mellon University  
Pittsburgh, PA, USA

*for contributions to high-level hardware design and synthesis*

Donald Grahame Holmes  
Royal Melbourne Institute of Technology University  
Melbourne, Victoria, Australia

*for contributions to the modulation and control of solid-state power electronic conversion equipment*

Anders Host-Madsen  
University of Hawaii  
Honolulu, HI, USA

*for contributions to communication theory for wireless networks*

## 2013 Newly Elevated Fellows

Michael S. Hsiao  
Virginia Tech  
Blacksburg, VA, USA

*for contributions to automatic test pattern generation of integrated circuits*

Dan Mircea Ionel  
Vestas Wind Turbines R&D  
Fox Point, WI, USA

*for contributions to the analysis, design and manufacturing of high efficiency electric machines*

Sushil Jajodia  
George Mason University  
Fairfax, VA, USA

*for contributions to information security, data protection, and privacy*

Ulrich Jakobus  
EM Software & Systems - S.A. Pty Ltd.  
Stellenbosch, Western Cape, South Africa

*for leadership in hybrid computational tool development and commercialization*

Xiaohua Jia  
City University of Hong Kong  
Hong Kong, S.A.R., China

*for contributions to distributed computing systems and multicast communications*

Rolf Johansson  
Lund University  
Lund, Sweden

*for contributions to system identification and adaptive control*

Karl Henrik Johansson  
Royal Institute of Technology  
Stockholm, Sweden

*for contributions to the applications of hybrid and networked systems*



## 2013 Newly Elevated Fellows

Leo Joskowicz  
The Hebrew University of Jerusalem  
Jerusalem, Israel

*for contributions to computer assisted surgery and medical image processing*

Tadeusz Kaczorek  
Warsaw University of Technology  
Warszawa, Poland

*for contributions to industrial control systems*

Swarn Singh Kalsi  
Kalsi Green Power Systems, LLC  
Princeton, NJ, USA

*for development and application of high temperature superconductor electric power equipment*

Lina Jamil Karam  
Arizona State University  
Scottsdale, AZ, USA

*for contributions to perception-based visual processing, image and video communications, and digital filtering*

Joel S. Karp  
University of Pennsylvania  
Philadelphia, PA, USA

*for contributions to quantitative imaging of positron emission tomography*

Nei Kato  
Tohoku University  
Sendai, Miyagi, Japan

*for contributions to satellite systems and network intrusion detection*

Andre Kaup  
University of Erlangen-Nuremberg  
Erlangen, Bavaria, Germany

*for contributions to video coding and object-based video signal processing*

## 2013 Newly Elevated Fellows

Tetsuya Kawanishi  
Nat'l Inst. of Information &  
Communications Technology  
Koganei, Tokyo, Japan

*for contributions to high-speed and precise lightwave modulation technologies*

Jeffrey Owen Kephart  
IBM T. J. Watson Research Center  
Yorktown Heights, NY, USA

*for contributions and leadership in autonomic computing*

Yann Kerr  
Centre National D'Etudes Spatiales (CNES)  
Toulouse Cedex 9, France

*for contributions to two-dimensional L-band microwave interferometer design*

Peter B. Key  
Microsoft Research Ltd., UK  
Cambridge, Cambs, UK

*for contributions to optimal control of trunk reservations and distributed admission control in communication systems*

Kazuro Kikuchi  
The University of Tokyo  
Tokyo, Japan

*for contributions to coherent optical communication systems*

Nicholas G. Kingsbury  
University of Cambridge  
Cambridge, UK

*for contributions to wavelet transform theory and filterbank design*

## 2013 Newly Elevated Fellows

Masaru Kitsuregawa  
University of Tokyo  
Tokyo, Japan

*for contributions to high performance database technology*

Geoffrey Stephen Klempner  
AMEC NSS Ltd.  
Toronto, ON, Canada

*for contribution to steam turbine-driven generators*

Gerhard Klimeck  
Purdue University  
West Lafayette, IN, USA

*for contributions to atomistic quantum simulation tools for nanoelectronic devices*

Kevin Wesley Kobayashi  
RF Micro Devices  
Torrance, CA, USA

*for contributions to monolithic microwave integrated circuits (MMIC)*

Wei Hu Koh  
Pacrim Technology  
Irvine, CA, USA

*for development of three-dimensional multichip modules and flip chip interconnects*

Joseph Andrew Konstan  
University of Minnesota  
Minneapolis, MN, USA

*for contributions to human-computer interaction and social media applications*

Yoram Koren  
~~The~~ University of Michigan, Ann Arbor  
Ann Arbor, MI, USA

*for contributions to flexible automation and manufacturing systems*

## 2013 Newly Elevated Fellows

Kenneth Kreutz-Delgado  
University of California, San Diego  
La Jolla, CA, USA

*for contributions to sparse signal recovery algorithms and dictionary learning*

Gerhard Johannes Krieger  
German Aerospace Center (DLR)  
Wessling, Bavaria, Germany

*for contributions to advanced synthetic aperture radar systems*

Kanan Krishnan  
University of Washington  
Seattle, WA, USA

*for contributions to nano-magnetic technology in medicine*

Kadaba R. Lakshmi Kumar  
Ikanos Communications  
Basking Ridge, NJ, USA

*for contributions to design of mixed signal CMOS integrated circuits for telecommunications*

Riccardo Lanari  
Consiglio Nazionale delle Ricerche (CNR)  
Napoli, Italy

*for contributions to synthetic aperture radar processing*

Carl Edward Landwehr  
McLean, VA, USA

*for contributions to cybersecurity*

David C. Larbalestier  
Florida State University  
Tallahassee, FL, USA

*for contributions to development of superconducting materials leading to high field magnetics*

## 2013 Newly Elevated Fellows

Sung-Ju Lee  
Hewlett-Packard Laboratories  
Palo Alto, CA, USA

*for contributions to algorithms for routing, multicasting, and interference mitigation in wireless local area networks*

Luke Fleet Lester  
University of New Mexico  
Albuquerque, NM, USA

*for contributions to quantum dot lasers*

Juerg Leuthold  
Karlsruhe Institute of Technology (KIT)  
Karlsruhe, Germany

*for contributions to high-speed optical communications*

Paul Leonard Lewin  
University of Southampton (UK)  
Southampton, Hampshire, UK

*for contributions to high voltage cable engineering*

Guifang Li  
CREOL, University of Central Florida  
Orlando, FL, USA

*for contributions to all-optical signal processing and high-capacity fiber-optic transmission*

Yanda Li  
Tsinghua University  
Beijing, China

*for contributions to research and education in signal processing and bioinformatics*

Li Erran Li  
Bell Labs, Alcatel-Lucent  
Edison, NJ, USA

*for contributions to the design of algorithms and protocols for wireless networks*

## 2013 Newly Elevated Fellows

Shunlin Liang  
University of Maryland  
College Park, MD, USA

*for contributions to remote sensing from satellite observations*

Mark Liao  
Institute of Information Science,  
Academia Sinica  
Taipei, Taiwan

*for contributions to image and video forensics and security*

Daniel Liberzon  
University of Illinois  
at Urbana-Champaign  
Urbana, IL, USA

*for contributions to analysis and design of switched, nonlinear and quantized control systems*

James P. Libous  
Lockheed Martin  
Endwell, NY, USA

*for contributions to switching noise minimization in CMOS technology*

Ying-Dar Lin  
National Chiao Tung University (NCTU)  
Hsinchu, Taiwan

*for contributions to multi-hop cellular communications and deep packet inspection*

Tamas Linder  
Queen's University  
Kingston, ON, Canada

*for contributions to source coding and quantization*

## 2013 Newly Elevated Fellows

Mikko Herman Lipasti  
University of Wisconsin-Madison  
Madison, WI, USA

*for contributions to the microarchitecture and design of high-performance microprocessors and computer systems*

Michal Lipson  
Cornell University  
Ithaca, NY, USA

*for contributions to design and applications of nanoscale photonic devices*

Marco Liserre  
Politecnico di Bari  
Bari, Italy

*for contributions to grid connection of renewable energy systems and industrial drives*

Eugene Litvinov  
ISO New England  
Holyoke, MA, USA

*for leadership in market design and power system control*

Chih-Wen Liu  
National Taiwan University  
Taipei, Taiwan

*for applications of phasor measurements to fault location and dynamics monitoring in power networks*

Yan-Fei Liu  
Queens University  
Kingston, ON, Canada

*for contributions to digital control techniques of power electronics converters*

Jinhu Lu  
RMIT University, Australia  
Melbourne, Victoria, Australia

*for contributions to complex networks and nonlinear circuits and systems*

## 2013 Newly Elevated Fellows

Yi Ma  
Microsoft Research Asia  
Beijing, P. R. China

*for contributions to computer vision and pattern recognition*

Kai-Kuang Ma  
Nanyang Technological University, Singapore  
Singapore, Singapore

*for contributions to image processing and digital video coding*

Gerald Quentin Maguire  
KTH Royal Institute of Technology  
Kista, Stockholm, Sweden

*for contributions to mobile networks and cognitive radio systems*

Ravi V. Mahajan  
Intel Corporation  
Chandler, AZ, USA

*for contributions to electronic packaging technology and thermal management of microprocessors*

Jean Mahseredjian  
Ecole Polytechnique de Montreal  
Montreal, QC, Canada

*for contributions to computation and modeling of power systems transients*

Danilo Mandic  
Imperial College London  
London, UK

*for contributions to multivariate and nonlinear learning systems*

Madhav V. Marathe  
Virginia Tech  
Blacksburg, VA, USA

*for contributions to development of formal models and software tools for understanding socio-technical networks*



## 2013 Newly Elevated Fellows

Guglielmi Marco  
European Space Agency - ESTEC  
Noordwijk, The Netherlands

*for contributions to multimode equivalent network representations and microwave filter design*

Radu Marculescu  
Carnegie Mellon University  
Pittsburgh, PA, USA

*for contributions to design and optimization of on-chip communication for embedded multicore systems*

Igor L. Markov  
University of Michigan  
Ann Arbor, MI, USA

*for contributions to optimization methods in electronic design automation*

Paul Watson Marshall  
Brookneal, VA, USA

*for contributions to understanding the impact of particle radiation on satellite reliability and survivability*

Cian O. Mathuna  
Tyndall National Institute  
Cork, Ireland

*for leadership in the development of power supply using micromagnetics on silicon*

Carlos Mazure  
SOITEC  
Bernin, France

*for leadership in the field of silicon on insulator and memory technologies*

William Robert Mc Cown  
Siemens Power  
Orlando, FL, USA

*for leadership in the design, application, and manufacturing of superconducting generators and turbogenerators*

## 2013 Newly Elevated Fellows

Alex McEachern  
Power Standards Lab  
Alameda, CA, USA

*for contributions to power quality measurement and immunity*

Gaudenzio Meneghesso  
University of Padova  
Padova, Italy

*for contributions to the reliability physics of compound semiconductors devices*

Helen Mei-Ling Meng  
The Chinese University of Hong Kong  
Shatin, NT, Hong Kong

*for contributions to spoken language and multimodal systems*

Dean L. Mensa  
Global Research and Technology Corporation  
Venura, CA, USA

*for contributions to high-resolution radar cross section imaging*

Subhasish Mitra  
Stanford University  
Stanford, CA, USA

*for contributions to design and test of robust integrated circuits*

Mauro Mongiardo  
University of Perugia  
Perugia, Italy

*for contributions to the modal analysis of complex electromagnetic structures*

Kipling Gordon Morison  
BC Hydro  
Burnaby, BC, Canada

*for contributions to on-line stability assessment tools for power systems*

## 2013 Newly Elevated Fellows

Arthur Sherman Morris  
wiSpry, Inc.  
Raleigh, NC, USA

*for development and commercialization of CMOS radio frequency micro electro mechanical systems*

Paul Muralt  
EPFL Swiss Federal Institute of Technology Lausanne  
Lausanne, VD, Switzerland

*for contributions to piezoelectric microelectro mechanical systems*

Sreenivasa S. Murthy  
Indian Institute of Technology Delhi  
New Delhi, Delhi, India

*for contributions to self-excited induction generators and renewable energy applications*

Matt W. Mutka  
Michigan State University  
East Lansing, MI, USA

*for contributions to distributed computing, mobile computing and networking*

Brad A. Myers  
Carnegie Mellon University  
Pittsburgh, PA, USA

*for development of software tools for human-computer interaction*

Chris John Myers  
University of Utah  
Salt Lake City, UT, USA

*for contributions to design and testing for asynchronous, analog, and genetic circuits*

Michael Robert Neuman  
Michigan Technological University  
Houghton, MI, USA

*for contributions to biomedical sensors and instrumentation with clinical applications*

## 2013 Newly Elevated Fellows

Renovell Nichel  
LIRMM-CNRS  
Montpellier Cedex, Herault, France

*for contributions to failure analysis and to defect-oriented tests of digital and analog circuits and systems*

Zaiping Nie  
University of Electronic Science  
and Technology of China (UESTC)  
Chengdu, Sichuan, P.R.China

*for leadership in engineering and education in electromagnetics*

Ali M. Niknejad  
University of California  
Berkeley, CA, USA

*for contributions to millimeter-wave radio frequency systems*

Cun-Zheng Ning  
Arizona State University  
Tempe, AZ, USA

*for contributions to nanophotonics and nanowire lasers*

Masaaki Niwa  
University of Tsukuba  
Tennoudai, Tsukuba, Japan

*for contributions to CMOS technology using high dielectric constant materials and metal gate*

Masaya Notomi  
NTT Basic Research Laboratories  
Atsugi, Kanagawa, Japan

*for leadership in the development of photonic crystals and applications*

Chikaodinaka Okechi-Dike Nwankpa  
Drexel University  
Philadelphia, PA, USA

*for contributions to real-time computation in power system analysis*

## 2013 Newly Elevated Fellows

Eiji Oki  
The University of Electro-Communications  
Chofu, Tokyo, Japan

*for contributions to high-performance packet switching and path computation technologies*

Bikash C. Pal  
Imperial College London  
London, UK

*for contributions to power system stability and control*

John Williams Palmour  
Cree, Inc.  
Durham, NC, USA

*for leadership in the development and commercialization of wide-bandgap semiconductor devices*

Daniel Palomar  
Hong Kong University of Science  
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Clear Water Bay, Kowloon, Hong Kong

*for contributions to convex optimization-based signal processing for communications*

Constantinos B. Papadias  
Athens Information Technology (AIT)  
Peania, Athens, Greece

*for contributions to signal processing and coding for multi-antenna wireless systems*

Antonia Papandreou  
Arizona State University  
Tempe, AZ, USA

*for contributions to applications of time-frequency signal processing*

Frank Chongwoo Park  
Seoul National University  
Seoul, South Korea

*for contributions to geometric methods in robot mechanics*

## 2013 Newly Elevated Fellows

Jong-Keun Park  
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Seoul, South Korea

*for contributions to design of electricity markets*

Steven D. Pekarek  
Purdue University  
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*for contributions to modeling and simulation of electrical machines*

Marcello Pelillo  
University of Venice  
Venezia Mestre, Italy

*for contributions to graph-theoretic and optimization-based approaches in pattern recognition and computer vision*

Serge Pelissou  
Hydro-Quebec Research Institute (IREQ)  
Varenes, QC, Canada

*for contributions to characterization of extruded cables and components in their life cycle*

David J. Perreault  
Massachusetts Institute of Technology  
Cambridge, MA, USA

*for contributions to design and application of very high frequency power electronic converters*

Christian Yves Dominique Pichot  
French National Center for Scientific Research (CNRS)  
Valbonne, France

*for contributions to microwave tomography and antenna designs*

John Wallace Pierre  
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*for development of signal processing methods for estimation of power-system stability*

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Kameshwar Poolla  
University of California, Berkeley  
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*for contributions to system identification, robust control, and applications to semiconductor manufacturing*

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Telecom ParisTech  
Paris, France

*for contributions to image and video compression and networking*

Peter J. Pupaikis  
LeCroy Corporation  
Chestnut Ridge, NY, USA

*for contributions to high-speed waveform digitizing instruments*

Sanjay Raman  
Defense Advanced Research Projects Agency  
Arlington, VA, USA

*for leadership in adaptive microwave and millimeter-wave integrated circuits*

Steven K. Reinhardt  
AMD Research  
Bellevue, WA, USA

*for contributions to computer system design and evaluation*

Kate A. Remley  
National Institute of Standards and Technology  
Boulder, CO, USA

*for contributions to calibration and measurement of wireless communication systems*

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*for contributions to the understanding of high-k dielectrics and metal gate electrodes for CMOS technology*

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*for contributions to computer graphics and geographic information systems*

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Lockheed Martin  
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*for leadership in management of research and development for defense systems*

Richard C. Rose  
McGill University  
Montreal, Canada

*for contributions in acoustic modeling of automatic speech and speaker recognition*

Caroline Anne Ross  
Massachusetts Institute of Technology  
Cambridge, MA, USA

*for contributions to synthesis and characterization of nanoscale structures and films  
for magnetic and magneto-optical devices*

Lucio Rossi  
CERN  
Geneva 23, Switzerland

*for leadership in developing magnetic systems for the Large Hadron Collider*

Mark E. Russell  
Raytheon Company  
Waltham, MA, USA

*for leadership in the development and fielding of RF/microwave systems for national  
security and defense*

Matthew Olanipekun Sadiku  
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*for contributions to computational electromagnetics and engineering education*



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Corsi Sandro  
CESI SpA  
Castellanza, Varese, Italy

*for contributions to wide-area voltage and reactive power regulation and protection*

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University of South Florida  
Tampa, FL, USA

*for contributions to computer vision*

Takuro Sato  
Waseda University  
Honjo-shi, Satitama-ken, Japan

*for contributions to W-CDMA cellular standardization*

Michael Antonio Savageau  
University of California, Davis  
Davis, CA, USA

*for application of systems engineering concepts to molecular biology*

Carsten W. Scherer  
University of Stuttgart  
Stuttgart, Germany

*for contributions to optimization-based robust controller synthesis*

John Brand Schneider  
Washington State University  
Pullman, WA, USA

*for contributions to the finite-difference time-domain method in computational electromagnetics*

Robert C. Scully  
NASA (National Aeronautics & Space Administration)  
League City, TX, USA

*for contributions to protection of aerospace systems from lightning and electromagnetic interference*

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Erchin Serpedin  
Texas A&M University  
College Station, TX, USA

*for contributions to synchronization of communication systems*

André Seznec  
INRIA  
Rennes, France

*for contributions to design of branch predictors and cache memory for processor architectures*

L. Dennis Shapiro  
Arzak Corporation (consulting)  
Chestnut Hill, MA, USA

*for leadership in development and commercialization of personal emergency response systems*

Gaurav Sharma  
University of Rochester  
Rochester, NY, USA

*for contributions to electronic imaging and media security*

Weiming Shen  
National Research Council Canada  
London, ON, Canada

*for contributions to agent-based collaboration technologies and applications*

Prashant Shenoy  
University of Massachusetts  
Amherst, MA, USA

*for contributions to the design and analysis of distributed systems and computer networking*

William Shieh  
The University of Melbourne  
Glen Waverley, Victoria, Australia

*for contributions to coherent optical orthogonal frequency-division multiplexing*

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Subhash L. Shinde  
Sandia National Laboratories  
Albuquerque, NM, USA

*for contributions to thermal management and 3D electronics packaging technologies*

Claudio T. Silva  
NYU-Poly Institute of Technology  
Brooklyn, NY, USA

*for contributions to geometric computing and visualization*

Pradeep K. Sinha  
Pune University  
Pune, MH, India

*for leadership in distributed and parallel processing systems*

Kevin Lou Skadron  
University of Virginia  
Charlottesville, VA, USA

*for contributions to thermal modeling in microprocessors*

James Charles Smith  
Utility Wind Integration Group  
Kitty Hawk, NC, USA

*for leadership in integration of wind energy sources into the electric power grid*

Stefano Soatto  
University of California, Los Angeles  
Los Angeles, CA, USA

*for contributions to dynamic visual processes*

Mary Lou Soffa  
University of Virginia  
Charlottesville, VA, USA

*for contributions to improved efficiency and robustness of software*

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University of Virginia  
Charlottesville, VA, USA

*for contributions to data management and scheduling in real-time systems*

John Warren Spargo  
Northrop Grumman Corporation  
Redondo Beach, CA, USA

*for leadership in superconducting electronics and related technologies*

Marc L. Stubbe  
Tractebel Engineering  
Rhode-Saint-Gense, Belgium

*for contributions to power system analysis and simulation techniques*

Craig Brian Stunkel  
IBM T.J. Watson Research Center  
Yorktown Heights, NY, USA

*for contributions to design and implementation of high-performance interconnection networks*

Dennis Michael Sullivan  
University of Idaho  
Moscow, ID, USA

*for contributions to time-domain electromagnetic simulation*

Ron Sun  
Rensselaer Polytechnic Institute  
Troy, NY, USA

*for contributions to cognitive architectures and computations*

Francesco Svelto  
University of Pavia  
Pavia, Italy

*for contributions to analysis and design of radio frequency circuits and systems*

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Hiroataka Tamura  
Fujitsu Laboratories LTD.  
Kawasaki, Kanagawa, Japan

*for contributions to technology for high speed interconnects*

Masayuki Tanimoto  
Nagoya University  
Nagoya, Japan

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Valerie Elaine Taylor  
Texas A&M University  
College Station, TX, USA

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Randhir P.S. Thakur  
Applied Materials  
Fremont, CA, USA

*for leadership in development and implementation of single-wafer technology in semiconductor manufacturing*

Thomas N. Theis  
IBM T.J. Watson Research Center  
Yorktown Heights, NY, USA

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Zhi (Gerry) Tian  
Michigan Technological University  
Houghton, MI, USA

*for contributions to ultra-wideband wireless communications and localization*

Leon M. Tolbert  
The University of Tennessee  
Knoxville, TN, USA

*for contributions to multilevel power electronic converter technology*

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Michail K. Tsatsanis  
Entropic Communications  
Huntington Beach, CA, USA

*for contributions to wireless and digital subscriber line communications*

Haruhiko Tsuchiya  
University of Yamanashi  
Kofu, Yamanashi, Japan

*for contributions to single-mode optical fiber transmission*

Gene Tsudik  
University of California, Irvine  
Irvine, CA, USA

*for contributions to distributed systems security and privacy*

Antonia M. Tulino  
Alcatel-Lucent Bell Laboratories  
Lincroft, NJ, USA

*for contributions to the development and application of random matrix methods in information theory*

Matthew Turk  
University of California, Santa Barbara  
Santa Barbara, CA, USA

*for contributions to computer vision and perceptual interfaces*

Jerzy Tyszer  
Poznan University of Technology  
Poznan, Poland

*for contributions to digital VLSI circuit testing and test compression*

Kenji Uchino  
ONR Global- Asia Office  
Tokyo, Japan

*for contributions to piezoelectric and electrostrictive actuators and electromechanical energy conversion*

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Ramasamy Uthurusamy  
Oakland University  
Rochester, MI, USA

*for contributions to data mining and artificial intelligence*

Antonius F.W. Van der Steen  
Erasmus MC  
Rotterdam, The Netherlands

*for development of ultrasound diagnostic techniques for vulnerable plaque detection*

Guy A.E. Vandebosch  
Catholic University of Leuven  
Heindonk Willebroek, Belgium

*for contributions to multilayer antennas and computational electromagnetics*

Ingrid M.R. Verbauwhede  
University of Leuven  
Heverlee, NA, Belgium

*for contributions to design of secure integrated circuits and systems*

John Paul Verboncoeur  
Michigan State University  
East Lansing, MI, USA

*for contributions to computational plasma physics and plasma device applications*

Pramod Viswanath  
University of Illinois  
Urbana, IL, USA

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Harish Viswanathan  
Bell Labs, Alcatel-Lucent  
New Providence, NJ, USA

*for contributions to wireless communication systems*

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Xi-Zhao Wang  
Hebein University  
Baoding, Hebei, China

*for contributions to development of fuzzy decision tree and clustering techniques*

Wen-Hann Wang  
Intel Corporation  
Hillsboro, OR, USA

*for contributions to multi-level cache hierarchy and multiprocessor systems*

Wei-Yen Wayne Wang  
National Taiwan Normal University  
Taipei, Taiwan

*for contributions to observer-based adaptive fuzzy-neural control for uncertain nonlinear systems*

Yuan Wang  
Florida Atlantic University  
Boca Raton, FL, USA

*for contributions to stability and control of nonlinear systems*

Karl Foster Warnick  
Brigham Young University  
Provo, UT, USA

*for contributions to theoretical and numerical analysis of phased-array antennas and microwave systems*

James Lewis Wayman  
San Jose State University  
Pebble Beach, CA, USA

*for contributions to standards, testing, and analysis of biometrics in automated human recognition systems*



## 2013 Newly Elevated Fellows

Tsachy Weissman  
Stanford University  
Stanford, CA, USA

*for contributions to information theory and its application in signal processing*

David James Wetherall  
University of Washington  
Seattle, WA, USA

*for contributions to the design of flexible, robust, and secure networks*

Philip Charles Woodland  
Cambridge University  
Cambridge, Cambs, UK

*for contributions to large vocabulary speech recognition*

Tzong-Lin Wu  
National Taiwan University  
Taipei, Taiwan

*for contributions to noise mitigation technologies and electromagnetic compatibility design on printed circuit boards*

Dapeng Wu  
University of Florida  
Gainesville, FL, USA

*for contributions to video communication and processing and wireless networking*

Feng Wu  
Microsoft Research Asia  
Beijing, China

*for contributions to visual data compression and communication*

Jing Xiao  
University of North Carolina-Charlotte  
Charlotte, NC, USA

*for contributions to robot compliant motion and haptic interaction*

## 2013 Newly Elevated Fellows

Dehong Xu  
Zhejiang University  
Hangzhou, Zhejiang, China

*for contributions to power electronic applications to renewable energy systems*

Jie Yang  
National Science Foundation  
Arlington, VA, USA

*for contributions to multimodal human-computer interaction*

Peide Ye  
Purdue University  
West Lafayette, IN, USA

*for contributions to compound semiconductor MOSFET materials and devices*

Eric Morgan Yeatman  
Imperial College London  
London, UK

*for contributions to the development of micro-electro-mechanical devices*

Bayya Yegnanarayana  
International Institute of Information  
Technology (IIIT) Hyderabad  
Hyderabad, AP, India

*for contributions to digital signal processing research and education*

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Zhejiang University  
Hangzhou, Zhejiang, P.R.China

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Taiwan Semiconductor Manufacturing Company (TSMC)  
Hsin-Chu County, Taiwan

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Hong Kong - ASTRI  
Shatin, Hong Kong

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Ramin Zabih  
Cornell University  
Ithaca, NY, USA

*for contributions to computer vision algorithms*

Ephraim Zehavi  
Bar Ilan University  
Ramat-Gan, Israel

*for contributions to pragmatic coding and bit interleaving*

Qing Zhao  
University of California at Davis  
Davis, CA, USA

*for contributions to learning and decision theory in dynamic systems with applications to cognitive networking*

Zhi-Hua Zhou  
Nanjing University  
Nanjing, Jiangsu, China

*for contributions to learning systems in data mining and pattern recognition*

Glenn Zorpette  
IEEE (Spectrum Magazine)  
New York, NY, USA

*for contributions to professional communication in electrical and electronics technology*

Geoffrey G. Zweig  
Microsoft Research  
Redmond, WA, USA

*for contribuitons to advance speech recognition*