2012 Newly Elevated Fellows

Patrice Abry
CNRS & Ecole Normale Suprieure de Lyon
Lyon Cedex 07, France

for contributions to the theory and applications of fractal and multifractal analysis in signal and image processing

Robert Whitlock Adams
Analog Devices, Inc.
Wilmington, MA, USA

for contributions to analog and digital signal processing

Rambabu Adapa
Electric Power Research Institute (EPRI)
Palo Alto, CA, USA

for leadership in DC and flexible AC transmission systems

Hojjat Adeli
The Ohio State University
Columbus, OH, USA

for contributions to computational intelligence in infrastructure engineering

Anant Kumar Agarwal
Cree Inc.
Chapel Hill, NC, USA

for contributions to silicon carbide power device technology

Dakshi Agrawal
IBM Thomas J. Watson Research Center
Hawthorne, NY, USA

for contributions to theory, analysis, and design of efficient, secure, and privacy-preserving communication systems

Divyakant Agrawal
University of California, Santa Barbara
Santa Barbara, CA, USA

for contributions to large-scale data management in distributed and networked systems

2012 Newly Elevated Fellows

Yucel Altunbasak
Georgia Institute of Technology
Atlanta, GA, USA

for contributions to super-resolution imaging, color filter array interpolation, and error-resilient video communications

Ajith Amerasekera
Texas Instruments Inc.
Dallas, TX, USA

for leadership in semiconductor innovation and contributions to circuit design

James Hampton Anderson
University of North Carolina at Chapel Hill
Chapel Hill, NC, USA

for contributions to the implementation of soft-real-time systems on multiprocessor and multicore platforms

Thomas Marbory Antonsen
University of Maryland
Potomac, MD, USA

for contributions to the theory of magnetically confined plasmas, laser-plasma interactions and high power coherent radiation sources

Carlos A. Araujo
University of Colorado at Colorado Springs
Colorado Springs, CO, USA

for contributions to the field of ferroelectric nonvolatile memories

Murat Arcak
University of California, Berkeley
Berkeley, CA, USA

for contributions to theory and application of nonlinear observer design and the passivity approach to control of distributed systems

Erdal Arikan
Bilkent University
Ankara, Bilkent, Turkey

for contributions to coding theory

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George William Arnold
National Institute of Standards & Technology
Gaithersburg, MD, USA

for leadership in architecture and protocols for the electric grid and telecommunication networks

Masahiro Asada
Tokyo Institute of Technology
Tokyo, Japan

for contributions to semiconductor laser theory and terahertz devices

Thangavelu Asokan
GE India Technology Centre
Bangalore, Karnataka, India

for contributions to the development technologies for electrical safety

Oscar C. Au
Hong Kong University of Science & Technology
Clearwater Bay, Kowloon, Hong Kong

for contributions to multimedia coding and security

Ahmad R.S. Bahai
National Semiconductor Inc.
Santa Clara, CA, USA

for contributions to multi-carrier wireless and wire-line communication systems

Theodore Baker
Florida State University
Tallahassee, FL, USA

for contributions to real-time computing applications

Venkataramanan Balakrishnan
Purdue University
West Lafayette, IN, USA

for contributions to convex optimization in control systems

Pierre Baldi
University of California, Irvine
Irvine, CA, USA

for contributions to machine learning and its applications in the life sciences

2012 Newly Elevated Fellows

Kaustav Banerjee
University of California at Santa Barbara
Santa Barbara, CA, USA

for contributions to modeling and design of nanoscale integrated circuit interconnects

Sergio Barbarossa
University of Rome, "La Sapienza"
Rome, Italy

for contributions to signal processing, sensor networks, and wireless communications

Mauro Barni
University of Sienna
Sienna, Italy

for contributions to signal and image processing for multimedia security

Farhat Nadeem Beg
University of California San Diego
La Jolla, CA, USA

for contributions to high intensity laser matter interactions and pulsed power pinches

David Theodore Blaauw
University of Michigan
Ann Arbor, MI, USA

for contributions to adaptive and low power circuit design

Thierry Blu
The Chinese University of Hong Kong
Hong Kong, China

for fundamental contributions to approximation theory in signal and image processing

Aldo Boglietti
Politecnico di Torino
Torino, Italy

for contributions to analysis of magnetic materials and AC electrical machines

Jozsef Bokor
Hungarian Academy of Science
Budapest, Hungary

for contributions to system identification and multivariable control system design

2012 Newly Elevated Fellows

Martin Bossert
Ulm University
Ulm, Germany

for contributions to reliable data transmission including code constructions and soft decision decoding

Raouf Boutaba
University of Waterloo
Waterloo, ON, Canada

for contributions to automated network and service management methodologies and applications

Christoph Brunner
it4power LLC
Cham, Switzerland

for development of global standards for substation automation and smart grids

Alan Burns
The University of York
York, Yorkshire, UK

for contributions to fixed-priority scheduling for embedded real-time systems

Giorgio Buttazzo
Scuola Superiore Sant' Anna
Pisa, Italy

for contributions to dynamic scheduling algorithms in real-time systems

Kenneth Leonard Calvert
University of Kentucky
Lexington, Kentucky, USA

for contributions to internet topology and active networks

Eduardo F. Camacho
University of Seville
Sevilla, Spain

for contributions to model predictive control and advanced control of solar systems

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Marco Claudio Campi
University of Brescia
Brescia, Italy

for contributions to stochastic and randomized methods in systems and control

Zeynep Celik-Butler
University of Texas, Arlington
Arlington, TX, USA

for contributions to the understanding of noise and fluctuation phenomena in solid-state devices

Chaitali Chakrabarti
Arizona State University
Tempe, AZ, USA

for contributions to low power embedded system design and to very large scale integration architectures for signal processing

Naehyuck Chang
Seoul National University
Seoul, Korea

for contributions to system-level power characterization, including thermal management

Jocelyn Chanussot
Grenoble Institute of Technology
Grenoble, France

for contributions to data fusion and image processing for remote sensing

Jyh-Cheng Chen
National Chiao Tung University
Hsinchu, Taiwan

for contributions to energy efficient protocols in wireless networks

Yen-Kuang Chen
Intel Corporation
Santa Clara, CA, USA

for contributions to algorithm-architecture co-design for multimedia signal processing

I-Ming Chen
Nanyang Technological University
Singapore, Singapore

for contributions to reconfigurable robotic systems and actuators

2012 Newly Elevated Fellows

Roger SK Cheng
Hong Kong University of Science &Technology
Clear Water Bay, Kowloon, Hong Kong

for contributions to multiuser communications in wireless systems

Mung Chiang
Princeton University
Princeton, NJ, USA

for contributions to optimization of communication networks and applications to wireless networks, broadband access, and the internet

John Nelson Chiasson
Boise State University
Boise, ID, USA

for contributions to control of electric machines and power converters

Hsi-Tseng Chou
Yuan Ze University
Chung-Li, Taiwan

for contributions to high frequency electromagnetic analysis and its applications to antenna design

Ronnie F. Chu
PECO Energy Company/Exelon Corporation
Philadelphia, PA, USA

for contributions to power systems planning

Chong-Nuen Chris Chu
Iowa State University
Ames, IA, USA

for contributions to physical design of integrated circuits

Kara Clark
General Electric
Scotia, NY, USA

for contributions to modeling of wind power generation

Luigi Colombo
Texas Instruments Inc
Dallas, TX, USA

for contributions to infrared detectors and high-k gate dielectrics

2012 Newly Elevated Fellows

Dorin I. Comaniciu
Siemens Corporate Research
Princeton, NJ, USA

for contributions to medical image analysis and computer vision

Gerard L. Cote
Texas A&M University
College Station, TX, USA

for development of innovative optical sensors for in vitro and in vivo medical diagnosis and monitoring

Paul Dan Cristea
University "Politehnica" of Bucharest (UPB)
Bucharest, Romania

for contributions to modernizing and internationalizing engineering education

Mark Edward Crovella
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Boston, MA, USA

for contributions to the measurement and analysis of networks and distributed systems

Brian Cunningham
University of Illinois at Urbana-Champaign
Urbana, IL, USA

for contributions to photonics crystals-based biosensors and detection instrumentation

Mark R. Cutkosky
Stanford University
Stanford, CA, USA

for contributions to bio-inspired robotics, dexterous manipulation and haptics

Kostas Daniilidis
University of Pennsylvania
Philadelphia, PA, USA

for contributions to visual motion analysis, omni-directional vision, and three-dimensional robot vision

John P. R. David
University of Sheffield
Sheffield, South Yorks, UK

for contributions to avalanche-photodiodes and impact ionization in semiconductors

2012 Newly Elevated Fellows

David Bruce Davidson
Stellenbosch University
Stellenbosch, South Africa

for contributions to computational electromagnetics

Kalyanmoy Deb
Indian Institute of Technology- Kanpur
Kanpur, Uttar Pradesh, India

for contributions to revolutionary multi-criterion optimization techniques

Alberto Del Guerra
University of Pisa
Pisa, Italy

for contributions to radiation detectors and systems for medical physics and molecular imaging

Alper Demir
Koc University, Turkey
Sariyer-Istanbul, Turkey

for contributions to stochastic modelling and analysis of phase noise

Michael Devetsikiotis
North Carolina State University
Raleigh, NC, USA

for contributions to rare-event modeling of communication networks

Mario di Bernardo
University of Naples Federico II, Italy
Naples, Italy

for contributions to the analysis, control and applications of nonlinear systems and complex networks

Rdiger Dillmann
Karlsruhe Institute of Technology (KIT)
Karlsruhe, Germany

for contributions to robot programming and human-centerd technologies

Josep Domingo Ferrer
Universitat Rovira i Virgili
Tarragona, Catalonia, Spain

for contributions to privacy, security, and functionality in statistical databases

2012 Newly Elevated Fellows

Edward Russell Dougherty
Texas A&M University
College Station, TX, USA

for contributions to the development of genomic signal processing

Gerard Dreyfus
ESPCI-PARISTECH
Paris, France

for contributions to machine learning and its applications

Alexandra Duel-Hallen
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for contributions to equalization and wireless communications

Jean-Luc Dugelay
Eurecom- Recyclage
Sophia Antipolis Cedex, France

for contributions to three dimensional imaging for security applications

Steven Loren Durden
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for contributions to microwave remote sensing and radar systems, including spaceborne cloud radar

Abdel-Aty Edris
Quanta Technology
Sunnyvale, CA, USA

for leadership in applications of flexible alternating current transmission systems to extra high voltage networks

Magnus B. Egerstedt
Georgia Institute of Technology
Atlanta, GA, USA

for contributions to hybrid and networked control, with applications in robotics

William Eric Eklow
Cisco Systems, Inc.
San Jose, CA, USA

for leadership in test technology for printed circuit assemblies and systems

Michael Elad
The Technion Israel Institute of Technology
The Technion City, Haifa, Israel

for contributions to sparsity and redundancy +in image processing

Irfan A. Essa
Georgia Tech
Atlanta, GA, USA

for contributions to computer vision and graphics

Ralph Etienne-Cummings
The Johns Hopkins University
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for contributions to neuromorphic sensory-motor circuits and systems

Babak Falsafi
EPFL Ecole Polytechnique Federale de Lausanne
Lausanne, Switzerland

for contributions to multiprocessor architecture and memory systems

Mostafa Fatemi
Mayo Clinic – Rochester MN
Rochester, MN, USA

for contribution to ultrasound radiation force imaging and tissue characterization

Zhenghe Feng
Tsinghua University
Beijing,China

for contributions to smart antennas and mobile communications, and for leadership in microwave and antenna education

Anbal R. Figueiras-Vidal
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for leadership in digital signal processing

Patrick Joseph Flynn
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Notre Dame, IN, USA

for contributions to biometric identification

2012 Newly Elevated Fellows

Gary Bryce Fogel
Natural Selection, Inc.
San Diego, CA, USA

for contributions to computational intelligence and its application to biology, chemistry, and medicine

Monique (ne Aubry) Frize
Carleton University and University of Ottawa
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for contributions to clinical engineering and engineering education

Jeffrey A. Froyd
Texas A&M University
College Station, TX, USA

for contributions to engineering education

Pascal Vitali Fua
Ecole Polytechnique Federale de Lausanne
Lausanne, Switzerland

for contributions to the theory and practice of three-dimensiional shape recovery from images and video sequences

Masakatsu George Fujie
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Shinjuku, Tokyo, Japan

for contributions to medical robotics

Eric Edward Fullerton
University of California, San Diego
La Jolla, CA, USA

for contributions to the synthesis and characterization of magnetic exchange coupled films, superlattices and recording media

Stefano Galli
ASSIA, Inc.
Redwood City, CA, USA

for contributions to theory, practice, and standardization of power line communication networks

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Donald Stanley Gardner
Intel Corporation
Santa Clara, CA, USA

for contributions to integrated circuit interconnects and integrated inductor technology

Douglas Alan Garrity
Freescale Semiconductor, Inc
Gilbert, AZ, USA

for contributions to analog-to-digital converters for embedded applications

Mazin Gilbert
AT&T Labs
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for contributions to speech recognition, speech synthesis, and spoken language understanding

K. Gopakumar
Indian Institute of Science
Bangalore, Karnataka, India

for contributions to design and control of multilevel converters

Suresh Gopalakrishnan
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for contributions to electric drives and control for automotive systems

Rafik A. Goubran
Carleton University
Ottawa, ON, Canada

for contributions to voice quality measurement and its applications to audio improvement

Susan L. Graham
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Berkeley, CA, USA

for contributions to programming language design and implementation and for service to the discipline of computer science

David Alan Grier
George Washington University
Washington, DC, USA

for contributions to crowd sourcing

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Leonidas J. Guibas
Stanford university
Stanford, CA, USA

for contributions to algorithms for computational geometry

Erich W. Gunther
EnerNex Corporation
Knoxville, TN, USA

for contributions to the development and standardization of techinques for electric power quality

Fredrik Borge, Robert Gustafsson
Linkping University
Linkping, Sweden

for contributions to theory and applications of statistical signal processing

Nadim F. Haddad
BAE Systems
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for development of radiation hardened semiconductor device technology and products for space applications

Wilfried Ernst-August Haensch
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for contributions to metal–oxide–semiconductor field-effect transistor device physics and scaling

Joseph Y. Halpern
Cornell University
Ithaca, NY, USA

for contributions to reasoning about knowledge and uncertainty

Charles D. Hansen
University of Utah
Salt Lake City, UT, USA

for contributions to visualizaiton tools for large-scale scientific datasets

Ahmed Hassanein
Purdue University
West Lafayette, IN, USA

for contributions to modeling and simulation of fusion, laser, and discharge produced plasmas

2012 Newly Elevated Fellows

Malcolm Lewis Heron
James Cook University
Townsville, QLD, Australia

for contributions to the application of radio science to oceanic and terrestrial remote sensing

Kunihiko Hidaka
The University of Tokyo
Tokyo, Japan

for contributions to measurement and electrical insulation technologies in high voltage engineering

Jiro Hirokawa
Tokyo Institute of Technology
Tokyo, Japan

for contributions to high-gain and high-efficiency millimeter-wave planar waveguide slot arrays

Franz Hlawatsch
Vienna University of Technology
Vienna, Austria

for contributions to time-frequency signal processing

Wei Hong
Southeast University
Nanjing, Jiangsu, P. R. China

for contributions to substrate integrated waveguide circuits and computational electromagnetics

Jia-Sheng Hong
Heriot-Watt University
Edinburgh, UK

for contributions to microwave planar filter technologies

Robert D. Howe
Harvard University
Cambridge, MA, USA

for contributions to haptic interfaces and robotic manipulation

Yennun Huang
Vee TIME Corp.
Taipei, Taiwan

for contributions to fault tolerant and failure avoidance software

2012 Newly Elevated Fellows

Mark S. Humayun
University of Southern California
Los Angeles, CA, USA

for contributions to development of an artificial retina

Michael F. Insana
University of Illinois at Urbana-Champaign
Urbana, IL, USA

for contributions to ultrasound imaging methods, particularly elastography

Takashi Ito
Tokyo Institute of Technology
Yokohama, Kanagawa, Japan

for development of direct nitridation technology of MOS gate insulators

Jorgen Arendt Jensen
Technical University of Denmark
Lyngby, Denmark

for contributions to medical ultrasound imaging systems

Yoon-Ha Jeong
Pohang University of Science & Technology
Pohang, Korea

for the development of single-electron and high-electron mobility transistors

Ray O. Johnson
Lockheed Martin
Bethesda, MD, USA

for leadership in national security technologies

Yogendra Kumar Joshi
Georgia Institute of Technology
Atlanta, GA, USA

for contributions to microfabricated cooling devices

Mao Jun Fa
Shanghai Jiao Tong University
Shanghai, Shanhai, China

for contributions to interconnects and passive components in integrated circuits and systems

2012 Newly Elevated Fellows

Charles R. Kalmanek
AT&T Labs-Research
Florham Park, NJ, USA

for leadership in advancing architecture, design and management of communications networks and services

Ahmed E. Kamal
Iowa State University
Ames, Iowa, USA

for contributions to optical networks provisioning for multipoint traffic

Sing Bing Kang
Microsoft Research
Redmond, WA, USA

for contributions to image-based modeling and rendering

Haran Chandra Karmaker
TECO-Westinghouse Motor Company
Round Rock, TX, USA

for contributions to the analysis, design and standards of large electrical machines

Lydia Kavraki
Rice University
Houston, TX, USA

for contributions to robot-motion planning and computational biology

John Albert Kay
Rockwell Automation
Kitchener, ON, Canada

for contributions to arc resistant medium voltage control and protection technologies

Nasser Kehtarnavaz
University of Texas at Dallas
Richardson, TX, USA

for contributions to real-time biomedical image processing

Andrei L. Kholkin
University of Aveiro
Aveiro, Portugal

for contributions to electromechnanicl characterization methods and applications

2012 Newly Elevated Fellows

Michael C.K. Khoo
University of Southern California
Los Angeles, CA, USA

for contributions to cardiorespiratory control in sleep disorders

Clifford Alan King
L-3 Communications
Gloucester, MA, USA

for contributions to silicon germanium heterojunction devicesand technologies

Sung-Jea Ko
Korea University
Seoul, Korea

for contributions to digital camera technologies

Sanjai Kohli
Consultant
Manhattan Beach, CA, USA

for leadership in developing consumer global positioning system receivers

Ryuji Kohno
Yokohama National University
Yokohama City, Kanagawa, Japan

for contributions to spread spectrum and ultra wideband technologies and applications

Brian H. Kolner
University of California, Davis
Davis, CA, USA

for contributions to optical waveform analysis and mode locked lasers

Michael Gangyu Kong
Loughborough University
Loughborough, Leicestershire, UK

for contributions to atmospheric pressure glow discharge sources in biology and medicine

Mayuresh V. Kothare
Lehigh University
Bethlehem, PA, USA

for contributions to multivariable constrained systems and model predictive control

2012 Newly Elevated Fellows

Ashok Krishnamoorthy
Oracle Labs
San Diego, CA, USA

for contributions to optical interconnect devices and their system applications

Srikanth V. Krishnamurthy
University of California, Riverside
Riverside, CA, USA

for contributions to cross-layer protocol design in wireless networks

Mark W. Kroll
Mark Kroll & Associates
Crystal Bay, MN, USA

for contributions to implantable and external defibrillator technology

Jerzy Antoni Krupka
Warsaw University of Technology
Warszawa, Poland

for contributions to high frequency measurements of electromagnetic properties of materials

Adam Krzyzak
Concordia University
Montreal, Quebec, Canada

for contributions to nonparametric algorithms and classification systems for machine learning

Francis J. Kub
Naval Research Laboratory
Arnold, MD, USA

for leadership in the development of wide bandgap semiconductor power electronics

Marc L. Pollefeys
ETH Zurich
Zurich, Switzerland

for contributions to three-dimensional computer vision

Pradeep Lall
Auburn University
Auburn, AL, USA

for contributions to reliability prediction for electronic packaging

2012 Newly Elevated Fellows

James Lam
University of Hong Kong
Hong Kong, China

for contributions ito analysis and synthesis of control systems

Vincent K.N. Lau
Hong Kong University of Science and Technology
Kowloon, NA, Hong Kong

for contributions to wireless communication systems with channel feedback

Mark Gerald Lauby
North American Electric Reliability Corporation (NERC)
Princeton, NJ, USA

for leadership in the development and application of techniques for bulk power system reliability

Rudy M. Lauwereins
IMEC
Leuven, Belgium

for contributions to data flow models in real-time prototyping

Reinhard Lerch
University Erlangen-Nuremberg, Germany
Erlangen, Bavaria, Germany

for contributions to ultrasonic transducer technology and computer modeling of sensors and actuators

Geert Leus
Delft University of Technology
Delft, Netherlands

for contributions to signal processing for communications

Jin Li
Microsoft Research Corporation
Redmond, WA, USA

for contributions to multimedia delivery, compression and storage for real-time communication

Junyi Li
Qualcomm Inc.
Bridgewater, NJ, USA

for contributions to modulation techinques for mobile broadband communications systems

2012 Newly Elevated Fellows

Xuelong Li
Chinese Academy of Sciences
Xi'an, Shaanxi, P. R. China

for contributions to pattern recognition and its applications in multimedia signal processing

Mike Peng Li
Altera Corporation
Palo Alto, CA, USA

for contributions to the design of jitter test technologies

Soung Chang Liew
The Chinese University of Hong Kong
Shatin, NT, Hong Kong

for contributions to wireless communications and networking

Ching-Yung Lin
IBM Thomas J. Watson Laboratory
Hawthorne, NY, USA

for contributions to network science and multimedia security and retrieval

Ming C. Lin
University of North Carolina at Chapel Hill
Chapel Hill, NC, USA

for contributions to real-time physics-based interaction and simulation for virtual environments, robotics and haptics

Thomas Edward Linnenbrink
Hittite Microwave Corp.
Colorado Springs, CO, USA

for leadership in standards for instrumentation and measurement systems

Huan Liu
Arizona State University
Tempe, AZ, USA

for contributions to feature selection in data mining and knowledge discovery

Tomas Lozano-Perez
Massachusetts Institute of Technology- MIT
Cambridge, MA, USA

for contributions to robot motion planning

2012 Newly Elevated Fellows

Marco Luise
University of Pisa, Italy
Pisa, Italy

for contributions to synchronization and signal processing in communications

Kwan-Liu Ma
University of California at Davis
Davis, CA, USA

for contributions to large-scale data contribution

John Eric Maenchen
Sandia National Laboratories
Arlington, VA, USA

for leadership in the development of intense pulsed charged particle beams, and their application for flash radiography

Ranjan K. Mallik
Indian Institute of Technology Delhi
New Delhi, Delhi, India

for contributions to channel characterization in wireless communication systems

Dinesh Manocha
University of North Carolina at Chapel Hill
Chapel Hill, NC, USA

for contributions to robot motion planning, rapid prototyping, and virtual environments

Jianchang Mao
Yahoo! Inc.
Santa Clara, CA, USA

for contributions to pattern recognition, search, content analysis, and computational advertising

Mario C. Marconi
Colorado State University
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for contributions to development and use of compact soft x-ray lasers

Ferran Martin
Universitat Autonoma de Barcelona(UAB)
Bellaterra, Barcelona, Spain

for contributions to metamaterial-based transmission lines for microwave applications

2012 Newly Elevated Fellows

MD Abul Masrur
US Army RDECOM-TARDEC
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for contributions to fault diagnostics in electric motor drives and automotive electric power systems

John David Mathews
Pennsylvania State University
State College, PA, USA

for contributions to radar observations of meteors

Yuichi Matsushima
Waseda University
Tokyo, Japan

for contributions to semiconductor optical devices for transoceanic optical undersea cable systems

Malay Kumar Mazumder
Boston University
Boston, MA, USA

for contributions to self-cleaning solar panels, and particle size and charge distribution analysis

Hugh Joseph McDermott
Bionic Ear Institute, University of Melbourne
East Melbourne, Vic, Australia

for contributions to improved sound-processing techniques for cochlear implants and hearing aids

Mark F. McGranaghan
Electric Power Research Institute (EPRI)
Knoxville, TN, USA

for contributions to the analysis of power quality issues

Peter J. McNulty
Clemson University
Clemson, SC, USA

for contributions to radiation-induced soft errors in microelectronics

2012 Newly Elevated Fellows

Peter Meer
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Piscataway, NJ, USA

for contributions to mean-shift and robust techniques in computer vision

Kathleen Lowe Melde
University of Arizona
Tucson, AZ, USA

for contributions to tunable antennas and their integration in electrical packaging

Chunting (Chris) Mi
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Dearborn, MI, USA

for contributions to hybrid electric vehicle modeling and power control

Eric Lawrence Miller
Tufts University
Medford, MA, USA

for contributions to inverse problems and physics-based signal and image processing

Russ Miller
State University of New York at Buffalo
Buffalo, NY, USA

for contributions to theory and practice of parallel algorithms and architectures

Veena Misra
North Carolina State University
Raleigh, NC, USA

for contributions to metal electrodes and high-K dielectrics for CMOS applications

Sushmita Mitra
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Kolkata, West Bengal, India

for contributions to neuro-fuzzy and hybrid approaches in pattern recognition

Tetsuya Mizumoto
Tokyo Institute of Technology
Tokyo, Japan

for contributions to waveguide optical nonreciprocal devices for optical communications

2012 Newly Elevated Fellows

Eytan Modiano
Massachusetts Institute of Technology
Cambridge, MA, USA

for contributions to cross-layer resource allocation algorithms for wireless, satellite, and optical networks

Tohru Mogami
Selete, Inc.
Tsukuba, Ibaraki, Japan

for contribution to surface-channel pMOSFET and nanoscale transistor technology

Agostino Monorchio
University of Pisa, Italy
Pisa, Italy

for contributions to computational electromagnetics and for application of frequency selective surfaces in metamaterials

Oleg A. (Alexandrovich) Mukhanov
HYPRES, Inc.
Elmsford, NY, USA

for leadership in research and development of superconducting digital electronics

Bernard Mulgrew
The University of Edinburgh
Edinburgh, Scotland

for contributions to linear and nonlinear equalizers for adaptive systems

Sivaram Murthy
Indian Institute of Technology- Madras
Chennai, Tamilnadu, India

for contributions to resource management in high performance real-time computing and communication systems

Wolfgang Nebel
Carl von Ossietzki University Oldenburg
Oldenburg, Germany

for contributions to the design of low-power circuits and systems

2012 Newly Elevated Fellows

Shahriar Negahdaripour
University of Miami
Coral Gables, FL, USA

for contributions to underwater computer vision

Andreas A. Neuber
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Lubbock, TX, USA

for contributions to the physics of dielectric surface flashover in high electric fields

Shojiro Nishio
Osaka University
Suita, Osaka, Japan

for contributions to data and knowledge management in database systems

Zhisheng Niu
Tsinghua University
Beijing, China

for contributions to collaborative radio resource management in wireless networks

Jong-Seon No
Seoul National University
Seoul, Korea

for contributions to sequences and cyclic difference setsfor communications algorithms

Anthony S. Oates
TSMC Inc.
Hsinchu, Taiwan

for contributions to the engineering and understanding of interconnect reliability in integrated circuits

Shunri Oda
Tokyo Institute of Technology
Tokyo, Japan

for contributions to silicon quantum dot devices

Hiroshi G. Okuno
Kyoto University
Kyoto, Japan

for contributions to robot audition technology

2012 Newly Elevated Fellows

Jean-Christophe Olivo
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Paris, France

for contributions to image analysis and its applications in biological imaging

Ian James Oppermann
Commonwealth Scientific & Industrial Research Org. (CSIRO)
Sydney, NSW, Australia

for contributions to mobile communication systems

Venkata Narayana Padmanabhan
Microsoft Research India
Bangalore, Karnataka, India

for contributions to mobile communications systems

Marimuthu Palaniswami
The University of Melbourne
Parkville, Victoria, Australia

for contributions to computational intelligence, learning systems, and nonlinear modelling

William Devereux Palmer
US Army Research Office
Durham, NC, USA

for leadership and contributions in microwave and millimeter wave systems and sources

Simonetta Paloscia
Institute of Applied Physics- National Research Council
Florence, Italy

for contributions to active and passive microwave remote sensing of vegetation and land surfaces

Ci-Ling Pan
National Tsing Hua University
Hsinchu, Taiwan

for contributions to optoelectronic and liquid crystal devices for ultrafast and terahertz photonics

Sharatchandra Pankanti
IBM Thomas J. Watson Research Center
Yorktown Heights, NY, USA

for contributions to biometrics and surveillance systems

2012 Newly Elevated Fellows

Maja Pantic
Imperial College, London
London, UK

for contribution to automatic human behavior understanding and affective computing

Lucy Y. Pao
University of Colorado at Boulder
Boulder, CO, USA

for contributions to feedforward and feedback control systems

Jon Michael Peha
Consultant
Pittsburgh, PA, USA

for leadership in wireless and broadband technology for public safety communications

Unil A.G. Perera
Georgia State University
Atlanta, GA, USA

for contributions to quantum structures for infrared and terahertz detection

Jean-Christophe Pesquet
University Paris-Est
Champs sur Marne, France

for contributions to statistical methods for signal recovery

Matti Kalevi Pietikainen
University of Oulu
Oulu, Finland

for contributions to texture and facial image analysis for machine vision

Sergio Amedeo Pignari
Politecnico di Milano
Milano, Italy

for contributions to immunity characterization using bulk current injection test methods

Konstantinos N. Plataniotis
University of Toronto, Canada
Toronto, ON, Canada

for contributions to the theory and application of statistical adaptive learning

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John Poulton
NVIDIA Corporation
Durham, NC, USA

for contributions to high-speed low-power signaling and to graphics architecture

Kenneth D. Poulton
Agilent Technologies
Santa Clara, CA, USA

for contributions to high-speed analog-to-digital conversion

Salil Prabhakar
DigitalPersona Inc.
Freemont, CA, USA

for contributions to biometrics technology

Farnoosh Rahmatian
Quanta Technology
West Vancouver, BC, Canada

for contributions to optical voltage and current sensors in high-energy electric power systems

Jagath Chandana Rajapakse
Nanyang Technological University
Singapore, Singapore

for contributions to computational techniques for magnetic resonance imaging

Ragunathan Rajkumar
Carnegie Mellon University
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for contributions to predictable real-time systems and operating systems

Janusz E. Rajski
Mentor Graphics Corporation
Wilsonville, OR, USA

for contributions to digital VLSI circuit testing and test compression

Subramanian Ramanathan
Raytheon BBN Technologies
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for contributions to mobile adhoc networks using topology control and directional antennas

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Parthasarathy Ranganathan
Hewlett Packard Labs
Palo Alto, CA, USA

for contributions to energy-efficient datacenters

Valluri R. Rao
Intel Corporation
Santa Clara, CA, USA

for contributions to the characterization technologies for microprocessor and logic circuits

Elliot Rappaport
Electro Technology Consultants
Coconut Creek, FL, USA

for contributions to grounding in industrial and commercial power systems

Lawrence Rauchwerger
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College Station, TX, USA

for contributions to thread-level speculation, parallelizing compilers, and parallel libraries

James B. Rawlings
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Madison, WI, USA

for contributions to model predictive control

Wanda K. Reder
S&C Electric Company
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for leadership in power engineering implementation and workforce development

Wonjong Rhee
ASSIA, Inc.
San Francisco, CA, USA

for leadership in dynamic spectrum management systems

Mark Andrew Richards
Georgia Institute of Technology
Marietta, GA, USA

for contributions in radar signal processing education

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John Riedl
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Minneapolis, MN, USA

for contributions to collaborative filtering, recommender systems and social computing

Ian Duncan Robertson
University of Leeds
Leeds, West Yorkshire, UK

for contributions to monolithic microwave integrated circuits and millimeter-wave system-in-package technology

Fabio Roli
University of Cagliari
Cagliari, NA, Italy

for contributions to multiple classifier systems

Arturo Roman-Messina
Inst. Politecnico Nacional-Mexico
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for contributions to analysis of electric power system

Jordi Romeu Robert
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Barcelona, Spain

for contributions to the development of fractal antennas

Mark Jeffrey Rosker
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for leadership in microwave and millimeter-wave phased arrays, gallium nitride semiconductors, and terahertz electronics

George N. Rouskas
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for contributions in algorithms, protocols, and architectures of optical networks

Riccardo Rovatti
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for contributions to nonlinear and statistical signal processing applied to electronic systems

Pedro L. Rustan
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for contributions to miniature satellite technologies

Manoj Sachdev
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for contributions to test methodology for very large scale integrated circuits

Paul C. Sajda
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for development of brain-machine interfaces for image and media search

Koji Sakui
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for the contribution to NAND flash memories

Valentina Salapura
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for contributions to the architecture and design of multiprocessor systems

Pierangela Samarati
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for contributions to information security, data protection, and privacy

Eugene, Jr. Santos
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for contributions to decision support systems and reasoning under uncertainty

Kunio Sawaya
Tohoku University
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for contributions to computational electromagnetics and characterization of antennas in plasmas

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for contributions to video algorithms

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for contributions to statistical signal modeling for wireless communication and sensor networks

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for contributions to software analysis and software engineering education

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for contributions to large-scale image retrieval, classification and object detection

Dominique Marcelle Marie-Paul Schreurs
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for contributions to nonlinear vectorial measurement-based experimental design and modeling

Daniel Louis Schweickart
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for contributions to insulation systems and design guidelines for aerospace applications

Robert Simon Sherratt
University of Reading
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for contributions to embedded signal processing in consumer electronic devices and products

Raghunath Kashinath Shevgaonkar
University of Pune, India
Pune, MH, India

for leadership in electrical engineering education in India

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Ben Shneiderman
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for contributions to human-computer interaction and information visualization

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for leadership in photonic signal and image processing for national security

Thomas R. Shrout
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for contributions to the development of advanced piezoelectrics for ultrasound transducers

Luis Miguel Silveira
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for contributions to analysis and modeling of VLSI interconnects

Johnny Kin On Sin
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for contributions to the design and commercialization of power semiconductor devices

Rajiv K. Singh
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for contributions to chemical mechanical polishing and thin film process technology

Nisheeth Kumar Singh
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for contributions to online control and analysis for power systems

Wan-Chi Siu
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Hong Kong, Hong Kong

for leadership in signal processing and contributions to video technologies

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Anand Sivasubramaniam
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for contributions to power management of storage systems and high performance computer systems

Andrei Nickolay Slavin
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for contributions to magnetic excitations and magnetization dynamics induced by spin transfer

Graham C. Smith
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for contributions of detectors for x-rays, charged particles and thermal neutrons

Franky So
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for contributions to organic light emitting diodes

Elvino Silveira Sousa
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for contributions to wireless systems, including modulation techniques and transmitter diversity

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for leadership in developing and commercializing light control technologies

Ljubisa Stankovic
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for contributions to time-frequency signal analysis

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for contributions to multi-target tracking, classification, and sonar signal processing

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for applications of stability concepts to the computer-aided design of nonlinear microwave circuits

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for contributions to the understanding of thin gate dielectric films

Xian-He Sun
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for contributions to memory-bounded performance metrics and scalable parallel computing

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for leadership in development of nuclear instrumentation and control systems

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for contributions to information theory and coding

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for contributions to assessment and safety standards for human exposure to radio frequency energy

Remus Teodorescu
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for contributions to grid-connected renewable energy converter systems technology

Mark Steven Tillack
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for contributions to fusion energy technology

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for contributions to computer vision technology for instrumentation and measurement

Tommaso Toffoli
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for contributions to theory of computing including reversible computing, cellular automata, and physics of computation

Samir Trabelsi
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for contributions to microwave measurements on particulate materials for agriculture

Stephen Mathias Trimberger
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for contributions to circuits, architectures and software technology for fleld-programmable gate arrays

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for contributions to nanophotonics and near-field optics for microscopy and storage

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for contributions to the optimization of communications networks

Yu-Chee Tseng
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for contributions to wireless and mobile networks

Edward Weldon Tunstel
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for contributions to space robotic system applications on planetary missions

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for contributions to transient electromagnetics ultra-wideband antennas, and mesoband radiating systems

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for contributions to conformance testing theory and practice

Maria Elena Valcher
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for contributions to positive systems theory and the behavioral approach to system analysis and control

Chris Gilbert Van de Walle
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for contributions to the theory of interfaces, doping and defects in semiconductors

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for application of metamaterials and electromagnetic band gap structures to antenna systems

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for contributions to coding theory and its applications in data storage systems and optical communications

Erik I. Verriest
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for contributions to delay systems and modeling time varying and nonlinear systems

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Sarita Vikram Adve
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for contributions to shared memory semantics of parallel computing

John F. Wager
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for contributions to the development of transparent electronics

Ping-Kong Alexander Wai
Hong Kong Polytechnic University
Hung Hom, Kowloon, Hong Kong

for contributions to optical networks and optical fiber communication systems

Chin-Liang Wang
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Hsin Chu, Taiwan

for contributions to signal processing algorithms and architectures for digital communications

Keh-Chung Wang
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for contributions to GaAs HBT integrated circuits for high speed data conversion and optical fiber communication systems

Le Yi Wang
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for contributions to system identification and the analysis of system complexity

James Warnock
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for contributions to circuit design of high-performance microprocessors

Thomas Rainer Maria Weiland
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Darmstadt, Germany

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2012 Newly Elevated Fellows

Xiaoqing Wen
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for contributions to testing of integrated circuits

Jiangtao Wen
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for contributions to multimedia communication technology and standards

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for contributions to mobile data management

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for the development of radiation detectors for high energy and nuclear physics, and medical imaging

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for contributions to light emitting diode and packaging technologies

Jianping Wu
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for leadership in the establishment of internet in China

Bing-Fei Wu
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for contributions to intelligent transportation and multimedia systems

Jian Xin Xu
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for contributions to motion control systems

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Junji Yamauchi
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for contributions to electromagnetic waveguides and design of surface wave antennas

Wuqiang Yang
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for contributions to electrical capacitance tomography

Guu-Chang Yang
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for contributions to optical code division multiple access

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for contributions to photonic generation and processing of ultra-wideband signals

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for contributions to ultra-reliable real-time embedded systems

Hao Ying
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for contributions to theory and biomedical applications of fuzzy control

Edward Tsu-Wei Yu
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for contributions to characterization and device applications of semiconductor nanostructures

Xiaohu Yu
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for leadership in the development of mobile communications in China

2012 Newly Elevated Fellows

Edward Kai-Ning Yung
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for contributions to engineering education and research in applied electromagnetics

Wenjun Zeng
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for contributions to multimedia communication and security

Wenjun Zhang
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for contributions to digital television systems and standards

Zhi-Li Zhang
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for contributions to internet quality-of-service theory and applications

Junshan Zhang
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for contributions to cross-layer optimization of wireless networks

Qian Zhang
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for contributions to the mobility and spectrum management of wireless networks and mobile communications

Guotong Zhou
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for contributions to the analysis of nonlinear signals and systems

Lei Zhu
Nanyang Technological University
Singapore, Singapore

for contributions to modeling, design and development of planar microwave filters