



Meet OSA's 2016 Fellows

OSA is pleased to announce the 77 OSA members elected to the class of Fellows. A record 167 members were nominated in 2015 for their significant contributions to the advancement of optics and photonics.

The OSA Fellow Members Committee reviews nominations submitted by current OSA Fellows and then recommends candidates to the OSA Board of Directors. The committee this year included Timothy J. Carrig (chair), Mikhail S. Belen'kii, Juan Campos, Katherine Hall, Kafai Lai, Fredrik Laurell, Alan C. Nilsson, Min Qiu, Halina Rubinsztein-Dunlop, Masatoshi Suzuki, Antoinette J. Taylor, Sergei K. Turitsyn, Edward A. Watson and Peter J. Winzer.

No more than 10 percent of the total OSA membership may be chosen as Fellows, making the process both highly selective and competitive. As a reflection of The Optical Society's global reach, 60 percent of this year's Fellows reside outside the United States.

The selection of these candidates was confirmed by the Board of Directors at its meeting in October 2015. Nominations for 2017 are due by 15 June 2016. For more information, contact the OSA Awards Office (awards@osa.org; +1 202.416.1960) or go to www.osa.org.

Our congratulations to these new Fellows, many of whom will be honored at OSA conferences throughout 2016.



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Les Allen

*University of Strathclyde,
United Kingdom*

For the discovery that optical beams with a helical phase front carry orbital angular momentum (OAM), as well as major advances surrounding the science of OAM beams.



David Leslie Andrews

*University of East Anglia,
United Kingdom*

For pioneering research in the formulation of theory based on quantum electrodynamics for the optical interactions of molecules, nonlinear optics and photophysics.



Alejandro B. Aceves

*Southern Methodist University,
United States*

For pioneering contributions in the areas of optical gap solitons, spatiotemporal localization in optical array systems, and UV filamentation.



Herzl Aharoni

Ben Gurion University of the Negev, Israel

For pioneering achievements in the invention and realization of cost-effective, efficient two- and multi-terminal single-crystal silicon light-emitting devices, through original designs, research and development, using standard IC technology for all-silicon, monolithically integrated optoelectronic systems.



José Azaña

*INRS-Energie Materiaux et
Telecom, Canada*

For contributions to the advancement of ultrafast photonics in fiber optics and integrated-waveguide technologies for applications in high-speed communications, information processing and computing.



Vanderlei Bagnato

Universidade de São Paulo Instituto de Física de São Carlos, Brazil

For seminal research in light-assisted collisions in laser-cooled atomic gases, including the generation of cold heteronuclear molecules, and for pioneering application of optical therapies to cancer and other diseases in Brazil.



Ole Bang

Danmarks Tekniske Universitet, Denmark

For outstanding contributions to the understanding of nonlocal solitons and supercontinuum generation, as well as for seminal contributions to polymer optical fibers and their application in sensing.



Mikhail A. Belkin

University of Texas at Austin, United States

For seminal contributions to photonics technology, spectroscopy and nonlinear optics in the mid-infrared and terahertz spectral range.



Jens Biegert

ICFO-The Institute of Photonic Sciences, Spain

For pioneering work in the development of ultrashort and intense few-cycle pulses in the mid-infrared, and of their use in analyzing the structure of molecules.



Richard John Blaikie

University of Otago, New Zealand

For pioneering research in the field of subwavelength optics, including the development of evanescent near-field optical nanolithography and a world-first demonstration of subdiffraction imaging using silver superlenses.



Michael Brodsky

U.S. Army Research Laboratory, United States

For significant contributions to the understanding of polarization effects in classical and quantum optical fiber communications.



Pavel Cheben

National Research Council Canada, Canada

For pioneering contributions to the science of photonic integrated circuits, including Fourier-transform interferometer arrays, nanophotonic couplers and subwavelength engineering in integrated optics.



Stéphane Coen

University of Auckland, New Zealand

For in-depth contributions to the understanding of supercontinuum generation in photonic crystal fibers, as well as leading investigations on temporal cavity solitons and identifying their role in microresonator Kerr frequency combs.



Jürgen W. Czarske

Technische Universität Dresden, Germany

For seminal contributions to interferometric and spectroscopic metrology for harsh environments and to adaptive optical systems.



Jérôme Faist

ETH Zürich, Switzerland

For the design, demonstration and pioneering development of the quantum cascade laser, a revolutionary semiconductor device that emits coherent electromagnetic radiation in the wavelength range from about 3 to 300 microns.



Thomas Feurer

Institut für Angewandte Physik, Universität Bern, Switzerland

For pioneering contributions to multi-dimensional shaping of ultrafast light pulses, terahertz nanophotonics, optical fiber lasers and applications.



Eric R. Fossum

Dartmouth College, United States

For seminal advances in the field of solid-state image sensors, and for the invention, development and commercialization of CMOS image sensors enabling widespread application of low-power miniaturized cameras.



Andrea Galtarossa

Università degli Studi di Padova, Italy

For fundamental contributions to the understanding of polarization properties of single-mode fibers and to their experimental characterization.



Amir H. Gandjbakhche

National Institutes of Health, United States

For leadership and research in areas of non-invasive optical imaging of biological targets, devising quantitative theories, development of methodologies, and designing instrumentation to study biological phenomena.



Irene Georgakoudi

Tufts University, United States

For contributions to the use of endogenous markers for optical imaging of metabolic processes in normal and diseased tissue and for tissue engineering.



Reuven Gordon

University of Victoria, Canada

For developing the field of enhanced optical interactions using nanoapertures in metal films, with applications to sensing, spectroscopy and manipulation of individual nanoparticles and proteins.



Pradeep Kumar Gupta

Raja Ramanna Centre for Advanced Technology, India

For pioneering contributions to the development and utilization of optical techniques for biomedical imaging and diagnostic applications, and for leadership contributing to significant growth of these activities in India.



Nobuyuki Hashimoto

Citizen Holdings Co., Ltd., Japan

For development of liquid-crystal optical devices for use in a wide variety of instruments, Blu-Ray disks and applications in precision measurement and microscopy.



Jian-Jun He

Zhejiang University, China
For significant contributions to photonic integrated devices and semiconductor lasers.



Elizabeth M.C. Hillman

Columbia University, United States
For pioneering contributions to biomedical optical imaging, spectroscopy, and microscopy, particularly development of novel techniques to elucidate physiological function, and for outstanding service to the biomedical optics community.



Ray-Hua Horng

National Chung Hsing University, Taiwan
For contributions to green photonics, and in particular for developing high-brightness light-emitting diodes and high-efficiency solar cells.



Ilko K. Ilev

U.S. Food and Drug Administration, United States
For outstanding contributions to the development of innovative multifunctional optical sensing and imaging methods in biophotonics technology and medical devices.



Peter Uhd Jepsen

Danmarks Tekniske Universitet, Denmark
For outstanding contributions to applications in terahertz spectroscopy of liquids, molecular crystals and semiconductors.



Thomas J. Karr

DARPA Strategic Technology Office, United States
For technical leadership in the development of new laser systems, remote-sensing methods including synthetic aperture lidar, long-range vibrometry, and adaptive optics, and understanding of laser atmospheric propagation.



Sanjay Krishna

Center for High Technology Materials, United States
For contributions to the development of infrared detectors and focal-plane arrays.



Cedric F. Lam

Google, United States
For significant and sustained contribution and leadership in optical networking technologies, including optical transport, access and data center networks.



Kirill V. Larin

University of Houston, United States
For exceptional contributions to optical imaging in developmental biology and optical elastography.



Sin-Doo Lee

Seoul National University, South Korea
For the discovery of novel electro-optic effects of liquid crystals and pioneering work on liquid-crystal-based optical devices.



Rainer A. Leitgeb

Medizinische Universität Wien, Austria
For outstanding contributions in the field of biomedical optics, advancing optical coherence tomography (OCT), functional OCT, holography and combined technologies.



Karl Leo

Technische Universität Dresden, Germany
For discoveries in optoelectronic phenomena, such as Bloch oscillations, and for novel devices based on organic semiconductors.



Anne L'Huillier

Lund University, Sweden
For pioneering contributions to strong laser field interaction, the discovery and understanding of high-harmonic generation and many seminal contributions to attosecond science.



Jingyu Lin

Texas Tech University, United States
For seminal contributions to the science and technology of nitride semiconductors, leading to the development of efficient light emitters from the ultraviolet to the infrared for novel sensing, display and solid-state lighting applications.



Ai-Qun Liu

Nanyang Technological University, Singapore
For contributions to photonic MEMS/NEMS and optofluidics, and for leadership of optofluidics research and education.



Qing Huo Liu

Duke University, United States
For pioneering contributions to spectral and high-order methods in computational nanophotonics, multi-scale and multi-physics optics and nano-optics analysis.



Zhaowei Liu

University of California, San Diego, United States
For outstanding contributions to plasmonics and superresolution microscopy.



Peixiang Lu

Huazhong University of Science and Technology, China
For outstanding contributions to the generation and application of ultrafast X-ray light sources, strong-field laser physics and ultrafast nonlinear optics in nanostructures.



Yan-qing Lu

Nanjing University, China

For significant contributions to microstructured nonlinear optical and electro-optical materials and devices, including crystals and liquid crystals.



John Marsh

University of Glasgow, United Kingdom

For contributions to quantum and photonic technologies and systems in III-V compound semiconductors.



Cristina Masoller

Universitat Politecnica de Catalunya, Spain

For contributions in the area of nonlinear dynamics of optical systems.



Benjamin J. McCall

University of Illinois at Urbana-Champaign, United States

For the development of ultrasensitive, ultrahigh-resolution molecular ion spectroscopy methods that, when combined with astronomical spectroscopy observations, help elucidate chemical and physical conditions in interstellar clouds.



Fedor Mitschke

Universität Rostock, Germany

For outstanding contributions over three decades to optics, and to the dynamics of nonlinear photonics and the physics of solitons in fiber optics in particular.



Richard Moncorgé

Université de Caen, France

For theoretical and experimental contributions in the fields of linear and nonlinear optical spectroscopy of ions in solids and of solid-state lasers based on crystals doped with rare-earth and transition-metal ions.



Stefan Nolte

Friedrich-Schiller-Universität Jena and Fraunhofer IOF, Germany

For seminal contributions to the interaction of ultrashort laser pulses with matter, with respect to precise micromachining of metals and transparent materials and transferring this technology into industrial applications.



Takashige Omatsu

Chiba University, Japan

For pioneering contributions in optical vortex lasers and their applications including chiral nanostructure fabrication.



Jian-Wei Pan

University of Science and Technology of China

For pioneering achievements in experimental quantum foundation and quantum information.



Q-Han Park

Korea University, South Korea
For outstanding contributions to the field of optical solitons, plasmonics and metamaterials.



Carsten Rockstuhl

Karlsruhe Institute of Technology, Germany
For seminal contributions to the field of theoretical and computational nanophotonics and, in particular, for groundbreaking contributions to the theoretical understanding of metamaterials and for pioneering the field of amorphous nanophotonics.



Clint L. Schow

University of California, Santa Barbara, United States
For contributions to high-capacity optical interconnects.



L. Brandon Shaw

U.S. Naval Research Laboratory, United States
For contributions to research, development and commercialization of mid-infrared materials, sources and devices.



David D. Smith

NASA Marshall Space Flight Center, United States
For fundamental contributions to the nonlinear spectroscopy of metal nanoparticle composites, innovative demonstrations of quantum coherence phenomena in coupled resonators, and seminal advances in the development of fast-light cavities and sensors.



H. Philip Stahl

NASA Marshall Space Flight Center, United States
For outstanding contributions to optical engineering and optical testing, especially in the area of astronomical optics.



Dan M. Stamper-Kurn

University of California, Berkeley, United States
For groundbreaking contributions in the development of coherent matter-wave optics, of quantum-limited metrology with ultracold atomic gases, and of cavity optomechanics in the quantum regime.



Günter Steinmeyer

Max Born Institute, Germany
For significant contributions to femtosecond pulse measurements and stabilization of the carrier-envelope phase, in particular the feed-forward stabilization method using an acousto-optic frequency shifter.



David G. Stork

Rambus Inc., United States
For pioneering contributions to the theory and practice of computational imaging, computer vision and pattern recognition, including their application to the study of art.



Koji Sugioka

RIKEN, Japan

For outstanding contributions in the area of laser micro- and nano-processing, including ablation, modification, additive manufacturing and three-dimensional structuring, from fundamental aspects to applications.



Andrey A. Sukhorukov

Australian National University, Australia

For pioneering contributions to nonlinear and quantum integrated photonics, including frequency conversion and broadband light manipulation in waveguide circuits and metamaterials.



Hwa-yaw Tam

The Hong Kong Polytechnic University, Hong Kong

For the development of diagnostic and prognostic systems based on fiber Bragg grating-based sensing networks, to herald a safer railway industry with reduced maintenance cost, optimized performance and capacity.



Masahito Tomizawa

Nippon Telegraph & Telephone Corp., Japan

For technical excellence and leadership in developing optical transport network standards and 100G coherent digital signal processors for the world market.



Bruce J. Tromberg

University of California, Irvine, United States

For serving as an advocate for and a leader of the biophotonics community, as well as for pioneering the development and clinical application of spatially and temporally modulated light imaging.



Valery V. Tuchin

Saratov State University, Russia

For pioneering contributions to the development of biomedical optics, including tissue optics, tissue optical properties quantification and optical clearing, and training and education in these areas.



Peter J. Veitch

University of Adelaide, Australia

For development of techniques essential to the successful high-optical-power operation of gravitational-wave detectors and for contributions to Advanced LIGO.



David G. Voelz

New Mexico State University, United States

For contributions to the fields of active imaging, laser communications and polarization sensing.



Jelena Vuckovic

Stanford University, United States

For field-opening contributions to the science and engineering of photonic crystals, and in particular for the use of 2-D microcavities for the Purcell-like enhancement of the spontaneous emission rate of embedded quantum dots.



Edo Waks

University of Maryland at College Park, United States

For outstanding contributions to optical quantum information processing using quantum dots coupled to nanophotonic devices.



Valeriy Yashchuk

Lawrence Berkeley National Laboratory, United States

For leadership and innovative contributions in development of experimental methods for ultra-high-accuracy optical measurements in the fields of atomic and optical physics and in optical metrology applied to X-ray optical systems.



Wenbing Yun

Sigray, Inc., United States

For numerous innovations and outstanding leadership in the development of X-ray microscopy and its commercial development.



Philippe Zeitoun

Ecole Polytechnique ENSTA, France

For pioneering contributions to the development, characterization and use of soft X-ray lasers and other ultrashort wavelength sources.



Heping Zeng

East China Normal University, China

For significant contributions to the understanding of ultrafast molecular processes in intense laser fields, and for sustained technical development of high-power ultrashort fiber lasers and infrared single-photon detection.



Mourad Zghal

University of Carthage, Tunisia

For outstanding research on novel photonic systems and devices, and for contributions to optics education in Africa.



Shuang Zhang

University of Birmingham, United Kingdom

For pioneering research on negative-index metamaterials and macroscopic invisibility cloaks at optical frequencies, and for important contributions to plasmonics, metasurfaces and topological metamaterials.



Xin Zhang

Boston University, United States

For outstanding achievement and contributions in terahertz metamaterials, biophotonics and energy using microelectromechanical systems.



Quing Zhu

University of Connecticut, United States

For pioneering research contributions in the area of combining near-infrared diffusive light and ultrasound for breast cancer diagnosis and chemotherapy monitoring.