

## Two Prestigious Prizes in Quantum Electronics and Optics announced by the European Physical Society

MULHOUSE, [04 MAY 2015] – The European Physical Society is delighted to announce the 2015 winners of its two most prestigious prizes in Quantum Electronics and Optics. These prizes, awarded only once every two years, recognize the highest level of achievements in fundamental and applied research in optical physics. The awards will be presented in a special Plenary Ceremony on Tuesday, May 23, 2015 during the Conference on Lasers and Electro-Optics Europe (CLEO®/Europe) and the European Quantum Electronics Conference (EQEC), held in Munich, Germany.

### 2015 Prize for Fundamental Aspects of Quantum Electronics and Optics: Sir John Pendry

The 2015 Prize for Fundamental Aspects of Quantum Electronics and Optics is awarded to Sir John Pendry, Professor of theoretical solid-state physics at Imperial College London, UK. The Prize is awarded to Professor Pendry **“For helping formulate rules on how to incorporate different kinds of materials with nanoscale structures to form larger scale metamaterials with exciting new optical properties not seen in nature”**.



**Sir John Brian Pendry** is an English theoretical physicist educated at Downing College, Cambridge, UK, graduating with a Master of Arts degree in Natural Sciences and a PhD in 1969. He is a professor of theoretical solid-state physics at Imperial College London where he was Head of the Department of Physics (1998–2001) and Principal of the Faculty of Physical Sciences (2001–2002). John Pendry has made

seminal contributions to surface science, disordered systems and photonics. His most famous work has introduced a new class of materials, *metamaterials*, whose electromagnetic properties depend on their internal structure rather than their chemical constitution. He discovered that a perfect lens manufactured from negatively refracting material would circumvent Abbe’s diffraction limit to spatial resolution, which has stood for more than a century. His most recent innovation of transformation optics gives the metamaterial specifications required to rearrange electromagnetic field configurations at will, by representing the field distortions as a warping of the space in which they exist. In its simplest form the theory shows how we can direct field lines around a given obstacle and thus provide a cloak of invisibility. John Pendry’s outstanding contributions have been awarded by many prizes, among which the Dirac Prize (1996), the Knight Bachelor (2004), the Royal Medal (2006), the Isaac Newton Medal (2013) and the Kavli Prize (2014).

### 2015 Prize for Applied Aspects of Quantum Electronics and Optics: Bahram Javidi

The 2015 Prize for Applied Aspects of Quantum Electronics and Optics is awarded to Prof. Bahram Javidi, Professor at the University of Connecticut, US. The Prize is awarded to Professor Javidi **“For pioneering contributions to information optics, including 3D imaging, 3D displays, and 3D imaging of photon starved scenes.”**



**Prof. Bahram Javidi** received the B.S. degree from George Washington University and the Ph.D. from the Pennsylvania State University in electrical engineering. He is Board of Trustees Distinguished Professor at the University of Connecticut. Prof. Javidi's interests are in a broad range of transformative imaging approaches using optics and photonics, and he has made seminal contributions to passive and active multi-dimensional imaging from nano- to micro- and macroscales. His recent research

activities include 3D visualization and recognition of objects in photon-starved environments using passive imaging; automated disease identification using biophotonics with low cost compact sensors for use in developing countries; information security, encryption, and authentication using quantum imaging; non-planar flexible 3D image sensing, and bio-inspired imaging. Prof. Javidi has been recognized for his outstanding achievements in a multitude of different ways. He has been named Fellow of eight societies, including IEEE, OSA, SPIE, EOS, and IoP. Early in his career, the National Science Foundation (USA) named him a Presidential Young Investigator. Prof. Javidi has received the SPIE Dennis Gabor Award in Diffractive Wave Technologies (2005) and the SPIE Technology Achievement Award (2008). In 2008, he was awarded the IEEE Donald G. Fink Paper Prize (2008), and the John Simon Guggenheim Foundation Fellow Award. In 2007, the Alexander von Humboldt Foundation (Germany) awarded Prof. Javidi the Humboldt Prize.

### **Background Information on EPS-QEOD**

The European Physical Society provides an international forum for physicists and acts as a federation of national physical societies. Founded in 1968, the EPS plays a leading role in both scientific and policy activities within the community of European physicists. The Quantum Electronics and Optics Division (QEOD) of the EPS acts as a focal point for European research in optics and photonics through its wide range of strategic activities, sponsorship and conference organisation. In addition to the major awards described above, it also awards Young Researcher (Fresnel) and PhD Student Prizes, which will be announced shortly. See [qeod.epsdivisions.org](http://qeod.epsdivisions.org)

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