News

IEEE Photonics Society Celebrates 50 Years

Five decades of shaping photonics innovation and technology

2015 is of particular historical significance for IEEE Photonics Society as it commemorates the 50th Anniversary of the creation of the Quantum Electronics Council which eventually led to the formation of the Society and the establishment of IEEE Journal of Quantum Electronics in 1965.

Throughout 2015, the Society plans to honor its history and half a century of achievements by holding celebrations at prominent conferences, organizing member appreciation activities, and honoring those in the community that have made compelling contributions towards the development of light-based technologies.

The IEEE Journal of Quantum Electronics will be celebrating its golden anniversary by introducing new journal Hot Topics, special features on the journal’s Top 50 Downloads and Citations and highlights on Nobel Laureate contributions.

Members of the IEEE Photonics Society will also be given a commemorative 50th Anniversary gift at OFC, CLEO and IPS this year as a thank you for supporting the Society’s efforts of advancing the photonics profession over the years.

The Society’s History: 1965–2015

Early Beginnings

During the early part of the 1960’s, quantum electronics was the province of the physicist. Most of the relevant papers published appeared in The Physical Review, The Journal of Applied Physics and Applied Physics Letters. To better serve the electrical engineering community, Dr. Glen Wade, then Editor of the IEEE Transactions of Electron Devices, added quantum electronics to its area of interests and Dr. Eugene Gordon was appointed Associate Editor for quantum electronics. In order to stimulate interest, a Special Issue on Quantum Electronics was planned for publication in vol. ED-9, January 1965.

The then Vice President of the IEEE and later President, Dr. Karl Willenbrock, was greatly interested in publications and became concerned that the IEEE was not doing enough for its members interested in quantum electronics. He approached Gordon and Wade concerning the establishment of an Electron Devices Group sponsored publication entitled, “Transactions on Quantum Electronics,” which then became the “IEEE Journal of Quantum Electronics.”

The new journal was supported with a Special Issue on Quantum Electronics, forming the basis for the first issue. At the time, the Group on Microwave Theory and Techniques became aware of the plans for the new journal. Based on its own interest in microwave techniques applied to optics, it proposed that it become a co-sponsor of the new journal. The Electron Devices Group graciously agreed and beginning with the June 1965 issue it was co-sponsored. However, in order for two or more Groups to co-sponsor a journal, a council had to be formed. Thus, the Quantum Electronics Council (QEC) was established.

With a successful journal as well as successful meetings, it was not surprising that the Council became a Society. In 1977, the council was named the Quantum Electronics and Applications Society (QEAS), under the guidance of Dr. Henry Kressel. The maturity of QEAS was manifested in 1983 with the establishment of the co-sponsored Journal of Lightwave Technology to focus on a subfield of increasing importance.

LEOS Days

Effective January 1, 1985, the name of the Society was changed to the IEEE Lasers and Electro-Optics Society (LEOS). The years 1985 and 1986, under the leadership of Dr. Robert Byer and Dr. Gary Bjorklund, were a period of rapid growth and organizational evolution for the Society. LEOS membership increased by more than 65 percent and the CLEO/IQEC and OFC conferences that the society co-sponsors maintained their worldwide positions of preeminence. Both the IEEE Journal of Quantum Electronics and The Journal of Lightwave Technology continued their traditions of excellence with many fine special issues devoted to particular topics of interest.
During this period, it became evident that LEOS had grown to the point that a full-time Executive Office was required to provide administrative leadership for the Society. Dr. Robert Wangemann was hired as the first LEOS Executive Officer. Other important organizational changes were instituted, such as a new Constitution and Bylaws that streamlined the operations and the future of the Society.

LEOS maintained exciting growth during 1987 and 1988 under the leadership of Dr. Paul Liao and Dr. Frederick Leonberger, respectively. With excellent coordination between the volunteers and an expanding Executive Office, services and capabilities were increased on many fronts. After much planning, the first LEOS Annual Meeting was held in November 1988. Later came the International Semiconductor Laser Conference as well as a number of workshops. In publications, JQE and JLT maintained their preeminent positions with many outstanding issues. Approval was obtained to launch a new letters journal, IEEE Photonics Technology Letters, in January 1989. A quarterly LEOS Newsletter was started in 1987. Membership grew in the process and the society installed new chapters at a rapid pace.

By 1991, under the leadership of Dr. Melvin Cohen, Dr. Concetto Giuliano, and Dr. Michael Ettenberg, LEOS continued to expand its services to members. IEEE Photonics Technology Letters became the premier source for up-to-date information in the optoelectronics field and IEEE Summer Topicals became established as a prominent conference. Three new LEOS awards were introduced to recognize the achievements of the photonics community: the LEOS William Streifer Scientific Achievement Award; the LEOS Engineering Achievement Award; and the LEOS Distinguished Service Award.

Steady leadership from Dr. Donald Scifres in 1992 and Dr. Suzanne Nagel, the Society’s first woman President, in 1993, steered the Society successfully through times of economic recession and restructuring. Under the leadership of Dr. Tetsuhiko Ikekami and Dr. David Miller, LEOS constructed two new major co-sponsored conferences, CLEO/Europe and CLEO/ Pacific Rim.

In 1995, the Society unveiled a new publication, the IEEE Journal of Selected Topics in Quantum Electronics. This journal, concentrating on issues on specific major research topics, was spun off from the Society’s first journal, the IEEE Journal of Quantum Electronics. And in 1998, the first class of the Graduate Student Fellowship Program was presented.

Photonics in the New Millennium
LEOS moved into the new millennium by adopting a new mission statement, focused on increasing services to members and the professional community, worldwide. LEOS became the fastest growing of all IEEE Societies and members began to receive free online access to journal archives. A new endowed award was also introduced, the Aaron Kressel Award, to recognize individuals’ contributions to device technology.

Dr. Philip Anthony led the Society in 2001 by enhancing programs that expanded LEOS’ impact during the height of the fiber-optic telecommunications boom. Conference attendance rose dramatically and journal submissions with commercial applications increased. Under the Presidency of Dr. Milton Chang, formal processes were put into place to support the Society’s Chapters and the development of further educational resources for members.

President Dr. Scott Hinton in 2004 led the effort to start the new IEEE/OSA Journal of Display Technology. During the Presidency of Alan Willner in 2006 and 2007, several new initiatives began that expanded the Society’s growth in the international arena. Many new LEOS local chapters were started in technologically emerging countries.

Dr. Rich Linke, Past Executive Director, joined the Society in 2007 and assisted the 29th President of the Society, Dr. John Marsh, by successfully promoting the adoption of the society’s new name, the IEEE Photonics Society. The society successfully launched the open access IEEE Photonics Journal, a first of its kind for IEEE. Under the leadership of founding Editor-in-Chief Dr. Carmen Menoni, the journal quickly achieved the #1 ranking among IEEE journals in submission-to-publication time. The Journal of Optical Communication and Networking, a joint project with OSA and the IEEE Communications Society, was also launched during this time.

The 30th President, Dr. Jim Coleman, resourcefully streamlined the Board of Governors. He revised the role of the VP of Technical Affairs to provide the Society with a window into new fields not already covered by our conferences and journals. This led to the launch of the Society’s new “Optical Interconnects Conference” and the renaming of the “Annual Meeting” to the “IEEE Photonics Conference," in order to broaden its technical scope.

Dr. Hideo Kuwahara, President in 2012 and 2013, further enhanced the globalization of IPS. He extended the Society’s reach by serving on IEEE committees, such as IEEE Future Directions, and preserved relations with several IEEE Councils. In Publication activities, the IEEE Photonics Journal became IEEE’s first fully open access technical publication in 2012 and quickly became the model for other IEEE OA journals. The impact factor of JSTQE reached its highest-ever level, exceeding 4.0.

2015 and Beyond
Throughout 2014 and now 2015, under the leadership of President Dr. Dalma Novak, Executive Director Chris Jannuzzi and Associate Executive Director Douglas Razzano, the IEEE Photonics Society is continuing to advance the photonic and optical technologies and educational resources of the future. The Society has instituted coalitions with outside organizations to start the National Photonics Initiative and the International Year of Light 2015. The IEEE Photonics Society has also put a strong emphasis on community outreach, women in photonics, and educational resource development this year. Student programs, humanitarian efforts and special networking programs at major conferences have been incorporated and will continue to grow for years to come.

As we celebrate our 50th anniversary, the IEEE Photonics Society will continue to take bold steps to ensure the technical community, industry, government and public understand the incredible impact light-sciences play in every aspect of modern life, and how the Society is a crucial part of that effort.