

Foreword

The 100th Anniversary of the IEIJ Founded in 1916

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The Illuminating Engineering Institute of Japan (IEIJ) founded on November 29, 1916 is an institute boasting its history and tradition as one of the 12 societies that were present when the Federation of Engineering and Scientific Societies, which is the predecessor of the present Japan Federation of Engineering Societies (JFES: with an organizational membership of 95 and a total membership of 600,000 (FY 2015)), was incorporated from an individual membership system to organizational membership system of specialized societies in 1922. The IEIJ, which started with 520 members, has now grown to have a membership of over 6,000 (as of July 2016), a scale in the top 15% of all the societies belonging to the JFES, and an outstandingly high percentage of female members of 20% of electricity-related societies. On September 2, 2016, the IEIJ held a memorial ceremony and celebration party to celebrate the 100th anniversary of its foundation while looking back on its history of 100 years and took a new step forward toward further development into a new century.

The history of modern lighting in the last 100 years was in step with the acceleration of the spread of “electric lighting,” which started with Thomas Edison’s invention of incandescent light bulbs. With the ceaseless efforts of our ancestors, it had led to a new phrase “turning a light on” established in Japan to nurture the modern civilization and culture of Japan. In the realm of light sources for lighting, while evolution of lighting progressed from incandescent light bulbs through fluorescent lamps to solid-state light sources represented by LEDs, white LEDs have been created from three primary color LEDs based on the results of research on blue LEDs by Doctors Akasaki, Amano, and Nakamura who won the Nobel prize and accepted a position of Honorary Member of the IEIJ and are rapidly becoming widespread and transformed as the mainstream of light sources for lighting. In addition, a paradigm shift is apparently taking place in terms of both structural and nonstructural aspects from the traditional stationary and static lighting techniques such as lighting presentations to the age of “spatiotemporal” control being coherent from creation of light to lighting application by taking advantage of the temporal readiness of LEDs.

In the industrial world, the Japan Lighting Manufacturers Association (JLMA) was launched in 2013 in the form of integration of the Japan Electric Lamp Manufacturers Association (JELMA) and the Japan Luminaires Association (JLA), and is displaying its leadership in the maintenance of compatibility and international standardization of light sources and lighting fixtures. I firmly believe that, in the future, the role to be played by the IEIJ will become even bigger and more significant for the purpose of the creation of innovation by combining power electronics and software technologies.

I stated at the beginning of this statement that modern lighting started with the invention of incandescent light bulbs. I feel the need to give thought to what our ancestors thought and felt as they looked at lights all the more because we now have gained possession of LED lighting and live in an age where lights can be controlled freely. We should bear in mind that the age when the technology for reproducing daytime in the nighttime was at the leading edge is now in the past. At the same time, we should look at the next century and clarify the issues with the present lighting technology as we learn anew the achievements and concepts of our predecessors from the chronological changes of lighting so that they can be reflected in the present time as required. Then, we should strive to pursue better lighting and further advance the presence of the IEIJ.

In Japan, globalization is progressing rapidly and extensively in all fields and environmental problems are posing a big challenge on a global scale in relation to ensuring of resources, especially sources of energy. Under the circumstances, the IEIJ is naturally required to be even more committed to information sharing, communication, and cooperation with lighting-related societies and lighting organizations of Europe, the U.S., and Oceania as well as the neighboring Asian countries.

In estimating energy usage on a global scale, some data suggest that the amount of energy used in 100 years by people at the time of the foundation of the IEIJ is used up by us in the present age in one year. The energy issues and the accompanying issue of energy-saving measures must naturally be considered against the background of such sense of tightness. However, evaluating LED light sources from the perspective of energy conservation alone may be too one-sided. Targets of illumination include human beings, living things, and society. I find it important not to confine the discussion to the “light” as a source of emission or radiation but to think how appearance and perception should be evaluated and become aware of human sensitivity as a major theme.

Based on my experience of engagement in the launch and operation of the school of biomedical engineering in my university days, I have realized that the awareness of “mutual respect and common language” is essential to integration of “medicine” and “engineering.” The world of lighting should also be seen as comprehensive science including physics, engineering, medicine, psychology, information science, architecture, art, and design and the IEIJ of the new century should aim to be the only integrated society among the various other societies that are inclined to become segmentalized. Again the keyword is “mutual respect and common language,” which I think is where the mission of the future IEIJ lies.

What are “papers,” what are “works,” and what is “beauty”? The present concern is how the conventional boundaries of academic societies can be surpassed.

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