



Shown above are the three honorary members elected by the 30 charter members at OSA's first meeting. They are George Ellery Hale, Charles S. Hastings and Edward L. Nichols, respectively.

OSA's Early Members

A look at the careers of some pioneering charter members

John N. Howard

At the first meeting of the newly organized Optical Society of America, which took place in December 1916, the 30 charter members decided to elect three honorary members to their new society. Those chosen were George Ellery Hale, Charles S. Hastings and Edward L. Nichols.

George Ellery Hale was himself a charter member of OSA, although his primary scientific interests were in astronomy and astrophysics. At the first OSA annual meeting in December 1916, he was also elected the first vice president of OSA. (Perley G. Nutting of Rochester was the first president.)

Hale had a remarkable ability to organize and stimulate others. In 1892, he persuaded Charles Tyson Yerkes, a street-car magnate, to fund the Yerkes Observatory, and its 40-in. refracting telescope (still the world's largest refractor).

Hale was born June 29, 1868. He invented the spectroheliograph in 1889, and discovered in 1908 the magnetic fields in sunspots, after having noted the peculiar behavior of spectral lines in sunspots, which he decided could be due to the recently discovered Zeeman effects. He verified this by measuring the polarization of magnetically affected lines in sunspots.

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refractor). He later persuaded Andrew Carnegie to fund the 60-in. telescope at Mt. Wilson, and John D. Hooker to fund the 100-in. In 1929, he convinced the Rockefeller Foundation to fund the 200-in. telescope (now called the Hale Telescope) on Mt. Palomar.

He was active in founding the *Astrophysical Journal*, the International Astronomical Union, the National Research Council, the California Institute of Technology and the Huntington Library and Art Gallery. He never published in the *Journal of the Optical Society of America*, but he nevertheless won the Ives Medal in 1935. He died February 21, 1938.

The second honoree, Charles S. Hastings, was born in 1848 and graduated from Yale in 1870. He then obtained a Ph.D. at Yale in 1873. After a short stint at Johns Hopkins, where he worked with Henry Rowland, he

returned as a professor at Yale's Sheffield Scientific School in 1884.

He was the optics teacher of many of the early members of the Optical Society. He published several textbooks, including *General Physics* (1899), *A Consideration of the More Familiar Phenomena of Optics* (1910), and *New Methods in Geometrical Optics* (1927). He published only one article in the *Journal of the Optical Society of America*, on a new type of telescope (1925). He died February 1, 1932.

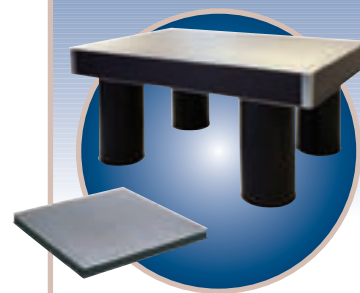
Edward Leamington Nichols was born September 14, 1854, of American parentage in Leamington, England. He obtained his B.S. from Cornell in 1875, worked in Leipzig from 1875 to 1878 and received a Ph.D. in Goettingen in 1879. After a year with Rowland at Johns Hopkins, he worked with Edison at Menlo Park from 1880 to 1881. There, he developed the first commercial photometer to measure the candlepower of incandescent lamps.



OSA annual meeting in the 1930s.

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Membership Stats through the Years

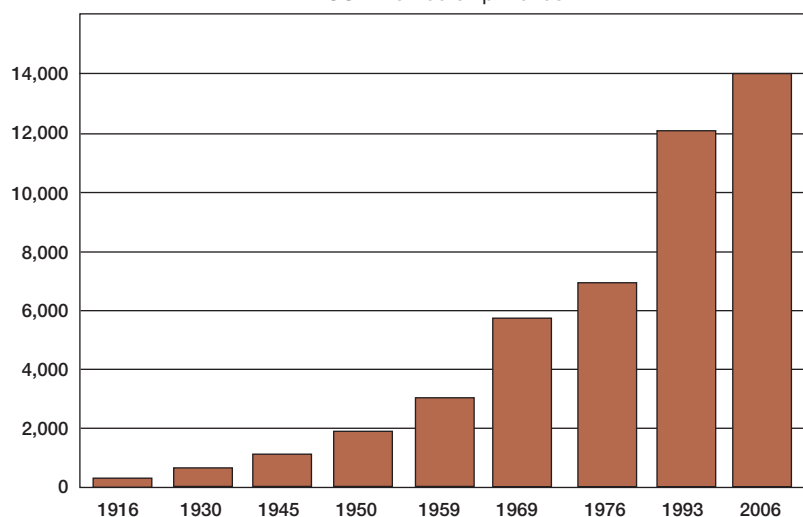
The Society was organized by 30 charter members in 1916. A year later, membership had more than doubled to include 74 optics professionals. After that, growth was slow but steady through the 1920s, reaching about 600 members in 1930. Membership remained more or less stagnant at around 650 throughout the lean years of the 1930s. During the war and immediately afterward, membership climbed again, to about 1,300 in 1945 and 1,900 in 1950. By 1959, the year that the executive office was established, OSA's ranks had reached 2,600.

The invention of the laser in 1960 stimulated renewed interest in optics, as did the development of new areas such as holography, optical data processing and remote sensing. The discipline grew rapidly, and the Optical Society kept pace.

In most years, the net gain in membership has been about 300. It reached 500 during a few "good" years and remained steady or declined slightly in two or three "bad" ones (such as the scientific recession of the late 1970s). By late 1989, the membership count was 10,800 and today it is at 14,000.



OSA Membership Trends



He then taught at Central University of Kentucky, 1881 to 1883, and the University of Kansas, 1883 to 1887, before settling again as a professor at Cornell from 1887 to 1919 (and as an emeritus professor from 1919 to 1937). Nichols was one of the founders of the *Physical Review*, and served as its editor between 1893 and 1912. He wrote texts on physics and electricity, luminescence, fluorescence and also many articles on physiological optics, photometry and illumination—14 of which appeared in the *Journal of the Optical Society of America*. He was the first recipient of the Ives Medal in 1929. He died November 10, 1937.

The last charter members

In 1916, the original 30 charter members had ranged in age from 30 to 73. When Hilda Kingslake wrote her 50-year history of OSA in 1966, only three of them (Hyde, Tillyer and Kerr) were still alive, and all were in their 80s. They have all long since passed away.

Edward P. Hyde (b. 1879) had never been active in the Society, and had actually resigned from OSA in 1923. His principal interests were in illuminating engineering. (He had been a founder in 1913 of the Commission Internationale de l'Eclairage, CIE, and was its president from 1921 to 1927.) At the time of Kingslake's historical account, he was in his late 80s and living in France. He appears to have died in the 1970s.

Edgar D. Tillyer (b. 1881) had worked at the Naval Observatory, and then at the National Bureau of Standards (NBS) before moving in 1916 to the American Optical Company in Southbridge, Mass., where he later became the director of research. He officially retired from American Optical in 1950, but continued as a consultant until his death at 89 on December 25, 1970.

Probably the best known of Tillyer's contributions to the field of vision was the design of the corrected curve, ophthalmic lens series that now bears his name. This was the first design that took into account marginal power and

In 1953, the American Optical Company established an OSA award in the field of vision to be called the Edgar D. Tillyer Medal.

astigmatic correction over the full range of ophthalmic prescriptions.

The design enabled mass production and set a standard for the industry. In 1953, the American Optical Company established an OSA award in the field of vision to be called the Edgar D. Tillyer Medal. Subsequently, the board voted unanimously to make the first award to Tillyer himself. The bestowal ceremony took place at the March 1954 meeting.

At the time of the Society's founding, charter member Charles H. Kerr (b. 1884) was the director of the research laboratory at the American Optical Company. (It was he, in fact, who in 1916 persuaded Tillyer to leave NBS and join the American Optical Company.) Kerr's primary interests were in glass chemistry and metallurgy. During World War II, he served on the War Production Board. He worked with a number of companies, but longest with Brown Instrument Company, of which he became general manager and part owner. He retired to San Diego. He was the last surviving charter member of OSA. He died in July 1978 at age 93. ▲

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[References and Resources]

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- >> Obituary for Edgar Tillyer: JOSA **61**, 644 (1971).
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- >> Speeches from the ceremony establishing OSA's Edgar D. Tillyard Medal: JOSA **44**, 577 (1954).

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