

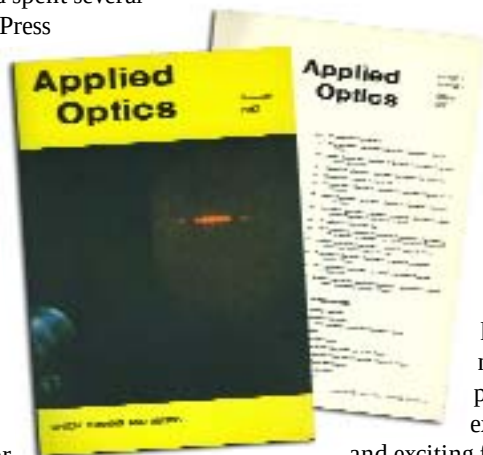
The Early Years of *Applied Optics*

OSA lays the foundations for its second journal. Pricing policy and criteria for selecting articles are among the topics under discussion. The first issue features articles by three future Nobelists.

In 1960, the OSA Board of Directors approved a plan to launch a new journal, *Applied Optics* (AO). As editor of the new journal, the first issue of which was to appear in 1962, the Board named John N. Howard; managing editor would be Patricia Wakeling.

Wakeling, who had spent several years with Pergamon Press before joining OSA, was well versed in the ins and outs of launching a new journal: she saw promotion and publicity as key. The year 1961 was spent in making plans and writing letters. It was decided to charge a low subscription rate, \$6 a year, to OSA members; the price for non-members would be \$10 a year. There would be publicity mailings to OSA members and prospective members, along with ads in *The Journal of the Optical Society* (JOSA) describing the scope of the new publication. The new journal would include an array of standard columns and departments: meeting reports, book reviews, patents, industry and university news and so on, all contributed by volunteers. But the most important decision was that special "feature" sections in the initial issues of AO would be overseen by a series of guest editors. The guest editors wrote to members of all the principal groups in their own technical areas, urging potential authors to consider publishing in the new interdisciplinary journal.

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Bruce Billings, feature editor of the first issue and later OSA president. (Left) Cover and table of contents of the first issue.

lasers ripened into reality. *Applied Optics* was operating long before any other society or commercial publisher could organize a competing publication to explore this new

and exciting field. The first issue, published in January 1962, featured a special section with Bruce Billings as guest editor. The lead article, by Francis Bitter of the National Magnet Laboratory, was on magnetic resonance in radiating atoms. Three future Nobel prize winners—Arthur Schawlow, Alfred Kastler and Norman Ramsey—were also among the feature contributors to that first issue, which contained six other articles on optical masers. Not bad for a beginning.

In March 1962, the second issue was published. Lloyd Mundie of the Rand Corporation was guest editor of the feature section, which focused on space optics and included papers on balloon, rocket and satellite radiometry, infrared astronomy and weather satellites, as well as new articles on optical masers.

The feature section in the third issue, organized by David Z. Robinson, contained surveys of international activities

in optics written by leading practitioners: there were papers on optics in France, Canada, Sweden, Japan, Italy and Germany. There was an article on optics in the U.S.S.R. by N.G. Basov, and an article on optics in India by C.V. Raman. Other issues published during AO's first year contained features on optical engineering, infrared and ultraviolet optics.

The first year, the journal appeared every other month, but it was soon obvious that the increasing flow of papers demanded a monthly publication schedule, a change that was implemented in 1963. That year, James Baker organized a feature section on astronomical instrumentation; Mary Warga organized another on spectroscopy. Both feature sections resulted in so many submissions that it was necessary to devote the feature sections of two issues of AO to each theme.

In the meantime, the number of regular contributions—those not generated by a feature editor—increased to the point that a backlog began to accumulate. The Board had approved a tight budget for the new journal based on a conservative estimate of growth in the number of pages, and the enthusiasm of the feature editors meant that not enough pages were available for all papers submitted. As a consequence, the editor had to urge the feature editors to be somewhat less

enthusiastic in their solicitation campaigns. Gradually, a policy that feature sections should not exceed more than about half of a given issue was adopted. For many issues, Howard chose to forgo the use of guest editors: he simply selected some interesting or unusual contributed paper as the lead article and clustered near it any other contributed papers that seemed to relate. This approach gave the appearance of a feature while at the same time expediting the publication of other contributed papers.

In the early days there had been varying views of what kinds of papers AO should seek to attract. Walter Baird, for example, said he pictured the new journal as a throw-away, with articles of transient interest that would compete with the many trade journals that were sent free to members of the optics community. If he saw an article on optical design in AO, he would just rip it out and route it to his own design department. Deane Judd, the editor of JOSA, felt that the new journal

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should become the home for the less interesting application papers that sometimes came to JOSA. This would allow him to concentrate on publishing in JOSA the more interesting fundamental papers. But Howard was not in favor of either option. His aim was to publish exciting new papers on lasers, space optics and optical engineering—"applied" yes, but by no means mundane. He did not want rejects from other journals. He initiated a refereeing system that was just as rigorous and severe as that of other standard journals, and AO very quickly became an archival journal of

respectable quality. In its first 30 years, for example, it contained more papers by Nobelists than its sister journal, JOSA.

Applied Optics offered readers a range of information that extended beyond high-quality contributed papers to include invited review papers, tutorials, articles on the history of optics, meeting reports, book reviews, columns on optics in industry and in academia and patent news. When the journal was launched, some warned that such material could not be mixed with archival papers, that one type of article would drive the other away. But the AO formula has proven popular: the circulation and page count increased steadily over the years. By 1990, data from such sources as the *Science Citation Index*, found in many large libraries, indicated that *Applied Optics* had become the world's most widely cited optics journal.

John N. Howard (howards@gis.net), founding editor of *Applied Optics*, is retired chief scientist of the Air Force Geophysics Laboratory.