SOCIETIES AND AWARDS

Optical Society honors Patel

During its 50th anniversary meeting in Washington, D.C., last month, the Optical Society of America presented the 1966 Adolph Lomb Medal to C. Kumar N. Patel of Bell Telephone Laboratories. The medal, awarded biennially to a scientist under 30 years of

PATEL

age for noteworthy contributions to optics, was given to Patel for his work in far-infrared spectra of gases and molecules.

Patel has invented a number of laser systems and explored various mechanisms of gas-laser excitation, quantum effects and nonlinear optical phenomena in the infrared. Some months ago, at Bell Laboratories, he invented a flowing-gas laser that for the first time used the transfer of molecular vibrational energy to obtain what was then the highest continuous power output at infrared frequencies and the highest energy-conversion efficiency of any laser. And it was his discovery of laser action on vibrational-rotational transitions of carbon dioxide that resulted in the development of very high continuous power output and high-efficiency carbon-dioxide lasers. With his colleagues, Patel has developed a modified version of this laser that has a peak power output of nearly 200 W.

Patel's investigations of atomic-gas-laser transitions in the infrared at wavelengths up to 133 microns have helped to bridge the gap between laser-generated radiation and that coming from microwave sources. His work on molecular vibrational-rotational laser transitions has also had an impact on molecular spectroscopy. More recently he has studied nonlinear optical effects in the infrared. He has discovered that tellurium possesses an enormous nonlinear coefficient, which he has used to obtain large amounts of harmonic generation with high-power carbon-dioxide lasers.

Patel was born in Baramati, India, in 1938 and educated at Poona and Stanford universities. While at Stanford he conducted research on narrow bandpass ferrimagnetic filters, and he received his PhD in electrical engineering there in 1961. He joined Bell Labs the same year and has been a member of the Bell technical staff ever since. He is a member of the American Physical Society and the Institute of Electrical and Electronics Engineers.

OSA launches REPOSA

Far from being the heroine of an Italian opera, REPOSA is the Optical Society's answer to the critical shortage of educational programs and scientific workers in optics. The Research and Education Program of the Optical Society of America, set up in January, has a full-time director in the society's president-elect, John A. Sanderson, who will work out of OSA offices in Washington, D.C.

REPOSA is but one part of "Optics—An Action Program," a comprehensive OSA project to increase the national supply of personnel trained in optics. Of the six areas in the action program, three are concerned with graduate research programs and one with opticians and optical technicians. REPOSA is a combination of the two remaining areas, which involve undergraduate research and the teaching of undergraduate optics, respectively.

Some of the activities that Sanderson will possibly carry out are:

- start a research newsletter that will keep the academic world informed of the faster-moving fields in optics, such as lasers, information transfer and new optical materials
- ensure the capability of competent universities to provide NSF summer institutes in modern optics and ensure teacher attendance at them
- make trial experiments and prepare a consensus curriculum for an undergraduate optics course; help provide optimal curriculum proposals and criticisms of current ones for both undergraduate courses and summer institutes
- get some better optical-journal distribution in colleges that cannot now afford them.

SANDERSON

"Initial responses to the program," says Sanderson "have been encouraging. Communications with local sections, society corporation members and representatives of government agencies have indicated a widespread recognition of the potential usefulness of a central office through which educational, industrial and government interests can be served. . . . It is expected that some assistance can be given to the national objective of strengthening federal support of the smaller colleges. Although the Optical Society does not plan to become an administrator of research proposals and grants, it will be in a strong position to advise colleges with respect to government interests and the preparation