Science exhibit contest takes us back to our roots

Many of us in the scientific and engineering community can trace our professional beginnings to local science museums. In my case, the Brooklyn science museum played an important role in sparking a teenage interest in astronomy that evolved into a career in atomic physics and laser spectroscopy. Jarus Quinn, OSA's executive director, has told me that, as a boy, he was influenced significantly by programs and exhibits at the Franklin Institute—Science Museum of Philadelphia.

As chairman of OSA's 1990 Annual Meeting, I took the opportunity to promote optics and repay a debt to science museums by initiating the first annual science museum competition. The competition challenged OSA members to develop or propose exhibits in the field of optics. Displays were mounted during the Tuesday afternoon poster session at the Boston meeting. In my view, it was a great success.

The contest was judged by two museum exhibit directors— Larry Bell of the Boston Museum of Science and Bill Booth of the Franklin Institute—and by Peter Clark of Polaroid. I served as ex-officio judge and Jim Bergen of the SRI Sarnoff Laboratory assisted as consultant in the area of vision and medical optics.

Doug Goodman of IBM came up with a the delightful winning entry entitled "Several Demonstrations". Besides receiving a certificate during the awards ceremony, Doug will receive a set of books on science exhibits developed at the Exploratorium in San Francisco. An honorable mention was earned by Raymond Applegate, Arthur Bradley and Colleen Zilio of the University of Texas.

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MICHAEL LITTMAN, chair of OSA's 1990 Annual Meeting, is associate professor of mechanical and aerospace engineering at Princeton University, Princeton, N.J.

This group displayed an impressive device that allowed people to observe the fine capillaries in their own eyes.

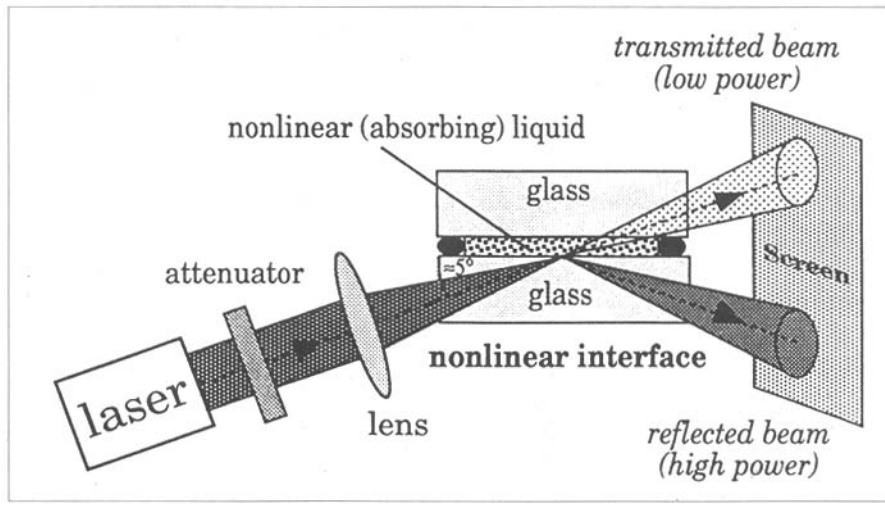
The quality of all of the entries was exceptionally high. In fact, it is possible that several of the presentations concerning optical phenomena and devices will find their way into science museums. Bill Booth of the Franklin Institute may duplicate some of the exhibits and distribute them through an organization of science museums that exists in part to share exhibits. I am also considering maintaining a database of the award winners for eventual publication and distribution to OSA members and others who are interested.

I encourage all of the optical "exhibitionists" who did not get the opportunity to enter this year's competition to start planning for the second annual competition. This will be held at the 1991 Annual Meeting as part of OSA's 75th Anniversary celebration.

This year's entries include:

Several demonstrations—Douglas Goodman, IBM T.J. Watson Research Center

Goodman displayed an early type of microscope consisting of a 5 mm glass ball that could be positioned and focussed using a 3-axis stage. The ball (*i.e.*, thick lens) had an effective magnification of about 80× and it provided the ability to resolve 2 μm lines on a test slide. He also had several colorful devices that were breathtaking. One of these was a fabulous kaleidoscope made up of four overcoated aluminum mirrors positioned between two linear polarizers and viewed through a door-peeper. The matrix of colors obtained was truly spectacular. In addition, there were several demos on simple diffraction that did not require any auxiliary optics other than the human eye and a light source of adjustable wavelength.



See 7-μm capillaries in your own eye—Raymond A. Applegate, Arthur Bradley, Colleen Zilio, University of Texas

This unusual device allowed the operator to obtain an extremely sharp and stationary image of the capillaries that lie on the surface of the retina. The key to the unit was the use of a moving disc to overcome the erratic rapid saccadic eye movement that normally prevents one from seeing these retinal shadows. The blue background used in the device was chosen specifically so that the red pigment in blood would absorb

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