

HIGH SCHOOL PHYSICS TEACHERS

and the LOCAL SECTIONS OF PHYSICS SOCIETIES

Under the AAPT-AIP Regional Counselor Program in Physics, the individual counselors are faced with the problem of helping to encourage better high-school physics teaching in their own localities. Here, the regional counselor for the state of New York reports on one stimulating approach to that problem carried out with the cooperation of school authorities and the state section of the American Physical Society.

By George W. Hazzard

THE New York State Section of the American Physical Society has, in recent years, moved in the direction of programming review meetings on various topics of current interest in physics, designed for the information of physicists who are not necessarily specialists in the fields reviewed.

Such subjects as plasma physics, solar space physics, radio astronomy, surface physics, optical and microwave pumping, and molecular amplifiers have been presented by experts in these fields and have attracted physicists from beyond the boundaries of New York State. Meetings, held at various locations around the state, are conducted in an informal, friendly manner and are sufficiently small to give those attending an opportunity to become acquainted.

Because of the review nature of the programs and the geographical diversity of location, it seemed appropriate to encourage high-school physics teachers to attend. Thus, starting with the Tarrytown meeting on Plasma Physics in the spring of 1962, high-school physics teachers in the area were invited.

With the cooperation of the Science Department of the New York State Department of Education, some 30 or 40 teachers living within an hour's drive of Tarrytown were invited to attend a special lecture by Dr. Sol Buchsbaum of Bell Laboratories, covering the basic

principles of plasma physics. The lecture was scheduled late on Friday afternoon so that most of those invited could free themselves from their teaching responsibilities to attend.

To inform the teachers, the regional counselor in physics for New York sent a letter of invitation to each, enclosing a program of the meeting, a description of Dr. Buchsbaum's talk, and a copy of the American Institute of Physics publication, *Glossary of Terms in Plasma Physics*.

A second letter went to the teachers' high-school principals, citing the desirability of having physics teachers participate in professional physics activities, emphasizing the opportunity it provided for professional growth and urging support of attendance by the school system.

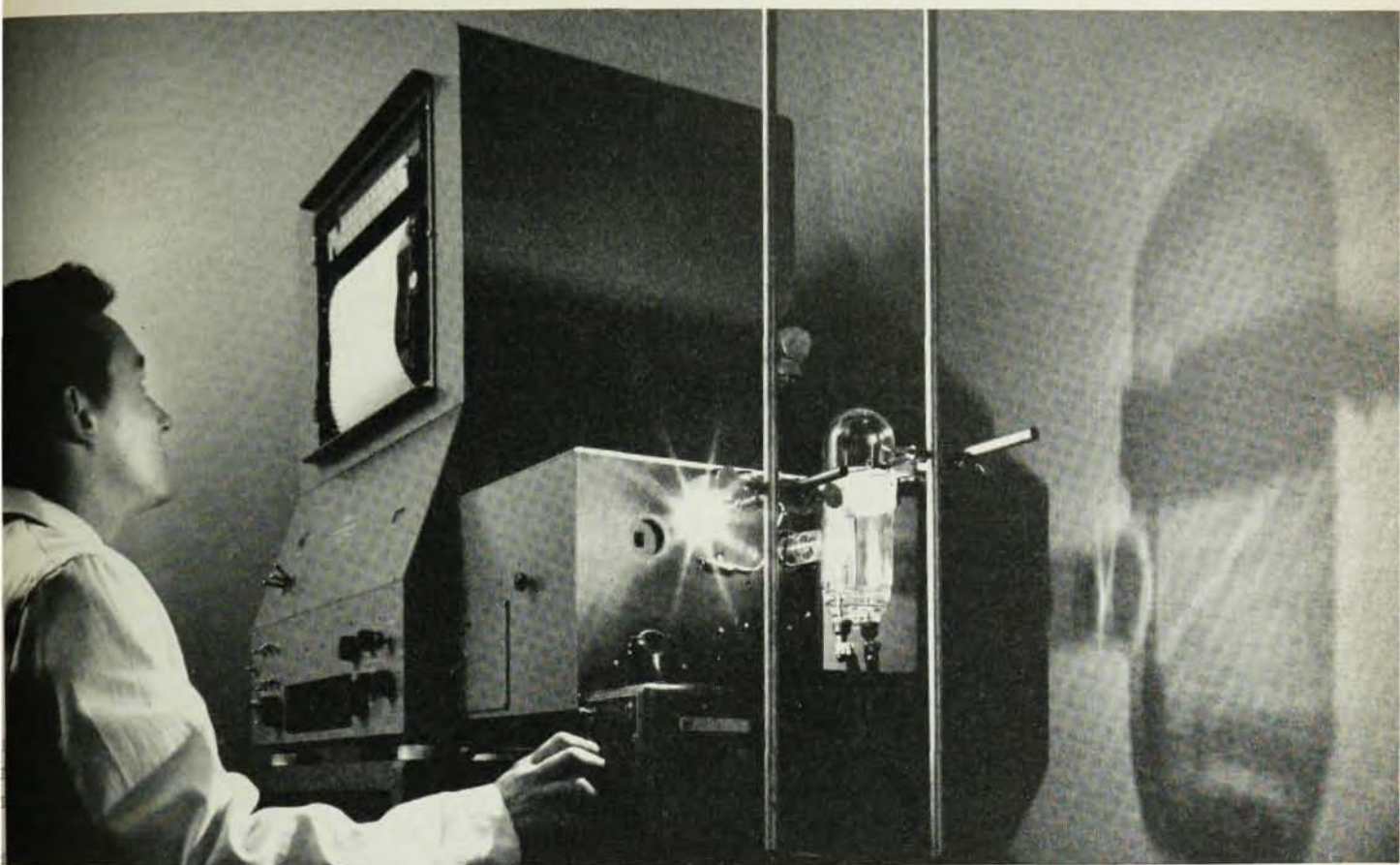
The net result of these two letters was a remarkably high ratio of acceptance. About 35 teachers attended not only Dr. Buchsbaum's lecture, but most of the Friday program. The teachers also attended the Friday evening banquet and after-dinner lecture and met many physicists during the social hour preceding the banquet.

Quizzed by the regional counselor at the meeting and by subsequent letter, the responses of some 32 teachers revealed the following:

Median distance traveled or willing to travel—100 miles, with a range of 20–400 miles; 23 teachers could get released time, 6 usually could, one could not; school-board policy encouraged 17, allowed 14; the re-

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gional counselor's letter to the principals was regarded as useful by 18, essential by 7, and unnecessary by 7; advance notice time—4 weeks median, range 2 weeks to 4 months; 26 found the special lecture satisfactorily informative. Thirteen attended the regular sessions and 10 of these got some information from them. Thirteen teach an average of 5 periods, 9 an average of 15, and 9 an average of 25 periods of physics per week. Nine teach nothing but physics, while the rest teach some other science or sciences. General comments on the program brought out strongly their desire to have contact with technical knowledge and people on a professional level. Several have been members of the New York State Section of APS for years, but all would like more such special programs. One teacher, who gives a course in the history of science, even suggested special programs in this area of the meeting topic.

One would conclude that these particular teachers were aided, though somewhat overworked, by the one-day meeting, and would be able to benefit from further programs of this type.

The favorable response to the Tarrytown meeting led to the same approach at the fall 1962 meeting of the Section at Farmingdale, Long Island. Invitations were sent to some 120 teachers of high-school physics in Nassau and Suffolk counties, describing the program on physics of solar space. Concurrently, letters went out to their principals. Luckily, the Farmingdale meeting coincided with a teachers' meeting day for Long Island school systems, so approximately 50 physics teachers attended the Friday sessions on the physics of solar space, with a smaller number attending the social hour and banquet thereafter.

It is expected that a similar approach will be used at the Section's 25th Anniversary Meeting on Biophysics, to be held April 18–20 at Union College and the General Electric Research Laboratory in Schenectady.

The benefits to the teachers seem to be threefold: First, they learn some interesting physics, even though many of the papers are somewhat out of range for many of the teachers. They feel that much of the information is close enough to their experience to enable them to translate it for their students and they are willing to have their minds stretched by listening to advanced discussion. Second, their attendance at these meetings of physicists, rather than at pedagogical meetings of dubious value they would otherwise be forced to attend, establishes in the minds of their principals the fact that they are in part a member of the community of physicists and not just specialists in education. Teachers also seem to feel that this establishes their influence more favorably in getting things for their physics teaching. The third benefit is the stimulation of conversation with friendly physicists who are doing university teaching or industrial research—personal contacts which could not be acquired in any other way. All these things, perhaps, are best summarized in the words "professional recognition"—meaning, in the best sense, recognition as members of the physics fraternity.