

# Teaching Abroad

## Report from Turkey

Under the EPS Lecturer Exchange Scheme (*Europhysics News*, 11 (1980) 7/8), Professor Bengt Sandell of Linköping University spent the Spring semester (February-May) 1982 at Bogaziçi University in Istanbul. The visit was financed by a local Swedish scholarship, the Swedish National Board of Universities and Colleges, and by Bogaziçi University (via support from UNESCO). Professor Sandell also made short visits to the physics departments of Istanbul University, Ege University in Izmir, and Hacettepe University, Middle East Technical University and Ankara University in Ankara. The following is a short account of his experiences.

An essential aspect of the "Lecturer Exchange Scheme" is that the guest lecturer takes part in the ordinary teaching, preferably at the undergraduate level of the institution that receives him, and in the routine activities of the host department. A major obstacle when teaching in another country is of course the language. But at Bogaziçi University (and the Middle East Technical University) the teaching is in English, the students having started to learn English during a preparatory year at the University. Nevertheless, although the formal lectures are in English, the informal discussions involving questions from the students and discussions of laboratory experiments are in Turkish.

Many students find physics difficult and a foreign teacher lecturing to a large group of students may cause additional difficulties. Moreover, that kind of lecturing is mostly a one-directional communication, and gives few possibilities for getting into contact with the students. We thought it better therefore, that I should work as an instructor for laboratory experiments which at Bogaziçi are introduced by a short lecture (to about 20 students) giving the theoretical background, some hints on the equipment and the evaluation of data. Points missed during the lecture, could then be cleared up during the run of the experiment.

Most students seemed to understand English pretty well, but some had difficulties in speaking. During the experiments, I was assisted by a Turkish graduate student, with whom the students having language problems could communicate in Turkish. This worked very well, and gave me the opportunity of getting closely into contact with the students.

I also gave a voluntary course on the "Experimental Solving of Physical Problems" which was concerned with the translation of experimental results into physical relationships without any knowledge of background theory. For this I had brought some material from Sweden and put together other equipment on the spot.

Bogaziçi University was until about 1970, Robert College and was run by Americans. In that period, from the amount of unused equipment and the evidence of notes, there were a lot of demonstration experiments used in teaching. Today however, the majority of the staff members are theorists,

and the experimental part seems to have declined. I went through cupboards and shelves, to see what could be used for demonstration and/or laboratory experiments and together with one of the experimentalists (out of two) refurbished some instruments, for use in a course in "Modern Physics".

Although Bogaziçi is young as a university, the buildings were not constructed with an eye to the number of students presently occupying them. Space is very limited and much of the equipment is out of date. In certain other universities, notably the new universities such as Hacettepe, Ege and the Middle East Technical, the situation in regard to buildings, space and equipment is totally different. They were newly started round about 1970, and had money for instrumentation. The economic situation now in Turkey is however, not of the best, so that the possibilities of buying new equipment or even maintaining existing apparatus are very restricted. No money at all has been set aside for buying new instruments for the physics department at Bogaziçi this year.

Even if the money is available there are difficulties in finding spare parts or components on the local market. One has to contend with import restrictions and working customs and an administration of high viscosity. There are also few representatives of foreign companies able to assist in repairing or giving advice if an instrument goes wrong. This makes it difficult to work as an experimentalist in Turkey. Moreover, many experimentalists work on their own, without the stimulation of working in a research group. Most have taken their Ph.D. abroad, in the USA or Europe, and have become specialized in a particular field, which of course they try to pursue on their own on coming back to Turkey.

Another problem in Turkey is that many students who study physics really do not want to. Students are accepted into university through a central examination, taken by about 400000 students, out of which there is place for about 100000. The students state their preferences for subjects and according to their results in the examination, may find their fifth or even lower choice being granted, a situation which they accept because the main thing is to study at university. Because few give physics as their first choice, the average level of the students in physics suffers. From the information I have been given, the teaching of physics at pre-university school is also poor, and there is a big lack of equipment. Many experiments performed at the university, would in Sweden be made at pre-university schools. Nevertheless, my impression of the quality of the students at Bogaziçi is that they are clever even if, as everywhere else, their main in-

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terest is to pass the examinations, not to try to learn because it is interesting.

### Conclusion

It was extremely interesting to work in Turkey, and to learn on one's own a little about the conditions for physics, and also in general, in a less developed country. I had hoped to achieve more than I did, but I hope that I have achieved something.

In my own view the teaching of physics would greatly benefit from teachers from the less developed parts going to a developed country to teach instead of, as people do now, to undertake research, the majority taking no part in any teaching, at least at the undergraduate level. In my own department, I have found that foreign visitors never concern themselves with physics courses. I think also it is good for physics in general if at the undergraduate level the teaching makes the subject challenging and fun — especially for those who will not continue in the subject, like engineers.

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To the Committee of the **Surfaces and Interfaces Section** has been coopted:

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### Student Membership

At its last meeting in Geneva at the beginning of April 1982, the EPS Council considered the possibility of introducing a new category of membership to encourage students to join EPS. Before coming to any conclusions however, it was decided to undertake a survey of the policies adopted towards students by our member societies, and a summary of the results of the ensuing enquiry is presented in the Table opposite; societies not included had not replied at the time of going to press.

It is evident that the range of concessions varies greatly, the extremes being no student membership and membership with all fees waived. Similarly the conditions for student membership differ widely from being self-announced to the setting of a maximum age or period in the category.

EPS has thus no real consensus practice that it can regard as a general precedent and will need to consider from first principles whether it wishes to pursue the idea at all and, if so, what benefits should be given and how students should be defined.

National Society	S. C.	Red. in Fees, %	Conditions
Austrian Physical Society	X	70	Self-announced
Belgian Physical Society	X	20	Until graduation
Danish Physical Society	X	50	
Dept. of Gen. Physics & Astronomy of the USSR Academy of Sciences	None		
Eötvös Lorand Phys. Soc.	X	100	Until second year of employment
French Physical Society	X	60	Until 30 years old
German Physical Society	X	50 - 85	Until diploma (New members of DPG exempt from fees for first year)
Icelandic Physical Soc.	X	50	Self-announced
The Institute of Physics	X	75 - 85	Maximum 5 years, minimum age 16
Israel Physical Society	None		Proposed with reduction of 50%
Italian Physical Society	None		Reduction of 50% for first 5 years
The Netherland's Physical Society	X	67	Until doctorate examination, 33% reduction for next 2 years
Norwegian Physical Society	X	50	Graduate students (2 years)
Physical Section, Union of Czechoslovak Mathematicians and Physicists	X	40	Maximum 10 years
Royal Irish Academy	None		
Swiss Physical Society	None		
Turkish Physical Society	X	75	Until first university degree
American Physical Society	X	67	Self-announced

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