

High-energy physics migration

High-energy physics, in its account on the PhD manpower ledger, is a creditor rather than a debtor. The surplus goes largely into teaching and the space effort. So concludes J. Howard McMillen, program director for elementary-particle physics at the National Science Foundation, who has just completed a survey of 215 high-energy experimentalists in three PhD classes.

McMillen wanted to find out whether planners in high-energy physics were right in 1961 when they said that their projected programs would not put a strain on PhD manpower. The manpower question can be troublesome where large facilities are concerned and may prove catastrophic when independent forecasting groups draw up programs that rely on the same projected PhD production. Government program directors generally consider high-energy manpower the most likely category to become overly committed during long-range planning.

In the McMillen study, high-energy experimentalists were identified from their thesis titles for the years 1961-62, 1962-63 and 1963-64. To find out where these PhD's are currently employed, extensive use was made of a high-energy manpower catalog that the Atomic Energy Commission set up this year. Names missing from the AEC catalog were traced in society membership lists and author indices to journals. More elusive members were sent letters, leaving only six out of 215 experimentalists who could not be found.

Data in table 1 show that 64 or 30% of the group took up positions outside high-energy research. Present occupations of these 64 are in table 2. Seventeen went into colleges or schools where teaching is the dominant activity, and another seven into universities that lack a high-energy experimental program. Thus about 11% took jobs that either were exclusively teaching or involved university research in other fields. Another 13%

Table 1. Migration of High-Energy Experimentalists

Class	1961-62	1962-63	1963-64	Total
Remained in field	49	52	38	139
Went to other fields	19	31	14	64
Lost by emigration, etc.	4	0	2	6
Not located	2	3	1	6
TOTAL	74	86	55	215

Table 2. Location of Those Leaving Field

Class	1961-62	1962-63	1963-64	Total
Universities				
Teaching emphasis	4	8	5	17
Other research	5	2	0	7
Industry				
Space related	3	7	3	13
Other	3	9	4	16
Government and national centers				
Space related	2	0	1	3
Other	2	5	1	8
TOTAL	19	31	14	64

Table 3. Location of Those Remaining in Field

Class	1961-62	1962-63	1963-64	Total
Universities	31	36	32	99
BNL, SLAC, ANL	14	9	3	26
LRL	4	7	3	14
TOTAL	49	52	38	139

went into industry and about 5% to government and national centers, with about one third of the industry-government group engaged in space sciences. Of the 139 high-energy experimentalists remaining in the field, about 70% are employed by universities and the rest by national accelerator labo-

ratories (see table 3 for the numbers).

There is no available record of the influx of experimental PhD physicists into high-energy from other fields, and it is felt that if any influx occurs, it must be too small to be observed. Theorists, of course, move from one field to another readily.

Maryland and NRL agree on joint plasma-physics program

A cooperative program of plasma studies, involving joint use of laboratories, facilities and personnel, has been agreed upon by the University of Maryland and the US Naval Research Laboratory. (A similar program was also set up between NRL and Cornell University.) The program will cover studies in plasma radiation, controlled thermonuclear reactions in the laboratory and behavior and characteristics of highly ionized gases. Advanced graduate students and visiting

scientists from other institutions will also be allowed to participate in these studies. Directing the program will be Alan C. Kolb of NRL and Hans R. Griem of Maryland. Kolb now serves as superintendent of the NRL plasma-physics division and, starting in September, will be part-time professor at the university. Griem serves as professor of physics at the University of Maryland and is currently director of the university's program in plasma research. □