

3196
Rowstock 377 Ext: 7

PERSONAL

17th January, 1961.

Mr. P. M. D. Gray,
Queen's College,
Cambridge.

Dear Mr. Gray,

Thank you for your letter of 13th January. As Mr. Burns told you, there are opportunities here for graduates wishing to do research. There are really three ways in which such people may work here:

- (1) We have vacancies on the permanent staff of the Institute in teams engaged on research into methods of particle acceleration, the analysis and separation of beams of particles emerging from accelerators into "clean" beams of particular particles in particular momentum ranges, and the apparatus of nuclear physics. These posts are equivalent to the Scientific Officer class of the Atomic Energy Authority and the Civil Service, for selected graduates with a first or good second class Honours Degree, and to the Experimental Officer class of the same organisations for good practical men with pass-degrees or rather poorer Honours Degree qualifications.
- (2) We have a smaller number of vacancies for fixed-term appointments (two to five years) in nuclear research as such. These posts are of Scientific Officer status and salary. Although we have so far taken only post-Ph.D. people we would be prepared to consider well-qualified candidates without post-graduate experience.
- (3) Much (and, we hope, most) of the nuclear research will be done by visiting university physicists including Ph.D. students supervised by staff of their own universities and working in collaboration with us. We provide all the necessary facilities.

It is clear from your letter that you do not have strong hopes of method (3) applied to Cambridge in your own case. I think that you are right so far as the next year or two are concerned, because the nuclear physics research at Cambridge is not likely to lead to continuous work at the Rutherford Laboratory during that time. The other two possibilities exist for you, but are difficult to combine with work for a Ph.D. We are happy to provide facilities and supervision for thesis work, particularly on our 50 MeV proton linear accelerator, but we are limited in what we can do by university regulations. At present we have a research student of Queen's University Belfast, whose research here is recognised by his university and is supervised by one of our staff, and two of our staff have been awarded external Ph.D.'s by London University. London University awards external Ph.D.'s only to its own graduates, and Cambridge does not award external degrees. I believe that the Cambridge Ph.D. regulations specify that not more than one year may be spent working elsewhere under supervision. Perhaps you should check this point with your tutor.

If you wish to work for a Ph.D. (which I think would be wise) and at the same time to work at the Rutherford Laboratory, you should consider the possibility of trying to enrol (for a D.Phil.!) at Oxford. If you get a good result in your finals you should have a good chance of being accepted and also of receiving a D.S.I.R. grant which would enable you to

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support yourself. Professor Wilkinson at the Clarendon Laboratory, Oxford University, has a strong contingent working with us, and he might be able to find room for you. It would of course be easy for you to fulfil university residence requirements while working here, since we are so close to Oxford.

Another possibility, which would not bring you here but would enable you to work on a big accelerator, is at Liverpool University with Professor Cassels. Professor Cassels is unlikely to have a strong team at the Rutherford Laboratory in the near future, but he devotes most of the effort of his large department to nuclear physics and has one accelerator running (a 400 MeV synchrocyclotron) and another under construction (a 12 MeV electrostatic generator).

Perhaps you would like to think about these possibilities, and write to me again. In the meantime I shall mention your problem to Professors Wilkinson and Cassels.

Yours sincerely,

T. G. Pickavance