

Teaching Opportunities in Physics for Post-Doctoral staff

Teaching is one of the best ways to learn physics, and the experience can be a valuable addition to a CV. Opportunities in the Cavendish come in two main forms:

- *Supervising* – giving tutorials to small groups of students (typically 2-3 students, although more in the fourth year) on topics directly associated with particular lecture courses.
- *Demonstrating* – assisting students in *practical classes* (and marking their work), or, for theory courses, providing guidance on problem solving in *examples classes* led by a lecturer or other staff member.

The Department encourages all post-doctoral staff to participate in supervising and demonstrating. Staff are generally permitted to teach for up to six hours a week in term time (at times agreed with your PI or supervisor), and can expect to be paid for this, by the colleges in the case of supervisions, or by the University in the case of demonstrating.

From time to time, senior post-doctoral staff may also have an opportunity to lecture final year students in the Lent Term *Minor Topics* courses. This is generally seen as a shop-window for a particular piece of research, and is not paid unless the request originates with the Teaching Committee.

Staff arriving in the Department other than at the start of the year should nonetheless let the Teaching Office know if they wish to be considered for teaching opportunities, as some vacancies are often unfilled at the start of year, while others appear as people leave.

For further information:

- See the teaching website, at www.phy.cam.ac.uk/teaching,
- Get a copy of the “Physics Course Handbook”: see Helen Marshall in the Undergraduate Office, or download it from the web (see above: it’s 140 pages, though!)
- Helen Marshall in the Undergraduate Office (undergraduate-office@phy.cam.ac.uk) and Rachael Padman (rp11@cam.ac.uk) will both be happy to answer your questions.

Supervisions

Supervisions are small-group tutorials. For students in the first two years, they are usually in groups of two; in the third year the group size is normally three, and in the final year may be anything from six to ten. Much of the time is usually spent in working through problem sheets set by the lecturer, although often students will want help on specific points of difficulty in the lectures. At the end of each term the supervisor submits an on-line report, which can be viewed by the student and his or her college *Director of Studies* (or DoS), and this also acts as a claim for payment.

In principle, the organisation of supervisions is the responsibility of the DoS, who in the case of Physics is usually a University Teaching Officer representing the college of which he or she is a Fellow. Almost all Part I (first and second year) teaching is organised in this way. Like many departments, Physics organises supervisions on the colleges’ behalf for the (more specialised) third and fourth year courses. Regardless of how the supervisions are organised, however, each college pays for supervisions for its own students.

Staff wishing to supervise first and second-year courses should therefore contact individual Directors of Studies. One way to do this is to send an email to physics-dos@lists.cam.ac.uk, which should reach all DoSs.

Staff wishing to supervise third and fourth year courses need to obtain the agreement of the relevant lecturers to show that they understand what they are getting into. They should therefore see the teaching web pages, at www.phy.cam.ac.uk/teaching/svSupervisors.php, contact the course lecturer to discuss what is involved, and ask the lecturer to email his or her approval to Helen Marshall in the Undergraduate Office (undergraduate-office@phy.cam.ac.uk).

For both college- and departmentally-arranged supervisions, the minimum sensible commitment is something like 2 hours a week for a term. There is an overhead in learning the material, which makes it very inefficient to supervise single groups, and Directors of Studies are looking for continuity and to get by with a relatively small number of supervisors.

The current supervision rate is about £30 per hour for supervisions in pairs. However, this includes an allowance for preparation and marking, so the rate is not as good as it looks! You may well need to put in quite a lot of preparation in your first year teaching any one course.

If you are prepared to supervise three hours a week or more, you may find that one of the colleges is prepared to appoint you to a college teaching position (the titles of such positions vary from college to college). The University's Researcher Development Committee has provided a small dowry to encourage colleges to engage with postdocs, and this has increased their interest in doing so. A college affiliation provides an opportunity to join the wider intellectual community in Cambridge, through meeting academics in other fields at dinners and other college functions.

More useful information can be found at www.phy.cam.ac.uk/teaching/supervision.php

Demonstrating

Most demonstrating in **practical classes** is currently done by graduate students, but we very much encourage post-doctoral staff to participate as well. The exact arrangements depend on the class:

- In the first year, classes run from 2-6 on Monday, Tuesday, Thursday and Friday, and each demonstrator does one session a week (4 hours). Time in the class is spent almost exclusively on helping students with the experiments, and marking takes place outside the class.
- Second year classes run from 10-6 on Tuesday and Thursday, and 2-6 on Monday and Friday. Each demonstrator does one 8 hour session (Tu, Th, or M/Fr). Some of the time in class is spent in marking and providing feedback to students.
- Third year classes run in 2-week blocks at the beginning and middle of both the first (Michaelmas) and second (Lent) terms. Demonstrators do not attend continuously, but rather at certain times during the day, and are on call as required.

Practical class demonstrating is paid at the standard university rate of £13.08 an hour, with an additional allowance of hours for preparation and marking. We also appoint a small number of experienced Senior Demonstrators, who also have a supervisory role: this pays £20.34 per hour.

For all classes, people considering demonstrating register their interest with the Teaching Office just before the start of the academic year: the Teaching Office and Heads of Class between them then decide to whom the jobs should be offered.

Demonstrating in **examples classes** is likely to be arranged directly between you and the relevant lecturer. You will need to obtain the problem sheet well in advance of the class, and to work through the solutions for yourself (although the lecturer will normally be pleased to offer assistance with this). If there is a course for which you would like to demonstrate, then please contact the lecturer directly.

Examples classes are paid at the standard demonstrator rate (currently £12.45 an hour), but there is a reasonable allowance for preparation as well as time actually in the class.

Final year projects

All final-year students do a research project, either in one of the research groups or in another department. Formally, all projects are supervised by a member of the teaching staff, or someone holding an equivalent position, who takes part in the formal assessment at the end of the year. Many teaching staff however delegate the day-to-day supervision of projects to post-docs working in their groups, and this can be a good chance to acquire relevant experience. Day-to-day supervisors report on students' progress to the Colleges, as for supervisions, and can be paid for up to six hours work.