



Teaching for postdocs in Cambridge

Rob Wallach

Director of Postdoctoral Affairs
Emeritus Senior Lecturer in Materials Science
Fellow and former Vice-Provost, King's College

Topics:

1. Undergraduates: supervising, practicals, examples classes, projects
2. Postgraduate teaching
3. Summer courses and outreach
4. Institute of Continuing Education
5. Teaching in the future - TEF



PdOCMarch 2017

1. Undergraduates: the Tripos system

- **Many topics in years one and two** which allows:
 - broad coverage of subjects
 - introduction to non-school subjects
 - more specialisation in final year/s.
- **Assessment** includes:
 - formal examinations: *major means of assessment*
 - practicals
 - projects
 - dissertations.
- Four year courses can lead to **M.Eng.** or **M.Sci.**

PdOCMarch 2017

Natural Sciences Part IA [year 1]

- **Three subjects from 7 choices:**
 - Biology of cells
 - Evolution and behaviour
 - Physiology of organisms
 - Chemistry
 - Geology
 - Materials & mineral sciences
 - Physics
- **plus one of**
 - mathematics
 - quantitative biology
 - elementary maths for biologists

PdOCMarch 2017

Natural Sciences Part IB [year 2]

- **Three subjects from 20 choices:**

Animal biology	Biochemistry & molecular biology
Chemistry A	Chemistry B
Ecology	Experimental psychology
Fluid mechanics	Geological sciences A
Geological sciences B	History & philosophy of science
Mathematics	Materials science & metallurgy
Minerals sciences	Molecular & cellular biology
Pathology	Pharmacology
Physics (single subject)	Advanced Physics (double subject)
Plant sciences	Physiology

PdOCMarch 2017

Undergraduate teaching approaches

- **Lectures:**
 - often 3 per topic each week
 - typical undergraduate: up to 12 to 18 hours per week
 - question sheets (and answers!).
- **Practicals:**
 - range from 2 hours to 8 hours
 - continuous assessment
 - use of demonstrators (*postdocs' help possible*).
- **Projects** (*postdocs' help possible*)
- **Dissertations** (*postdocs' help possible*)
- **Examples classes & seminars** (*postdocs' help possible*).
- **Supervisions.**

PdOCMarch 2017

Lecturing: opportunities

- Department: ask in Teaching Office
or with academic responsible for teaching
- Possible postgrad lecture/s related to your research
or expertise on techniques/computational (STEMM), critical analysis (AHSS) methods
- Summer courses in Cambridge **and/or** elsewhere
- The Institute of Continuing Education
www.ice.cam.ac.uk
- **Be pro-active and make approaches directly.**

PdOC

March 2017

Supervisions: undergraduates



PdOC

March 2017

What are supervisions?

- 1 hour sessions
- Weekly usually but may vary
- Participants number from 2 to 6
- Facilitated by graduate, post-doc, lecturer, prof.
- Different according to individual and subject
- Arranged by **Colleges** [or departments]
- Accountable to, and responsibility of, **Colleges**
- **NOT** part of University's formal assessment

PdOC

March 2017

What are supervisions for?

- learn discipline of **subject**
- integrate course across subject, field
- tackle assignments and problem solving
- **development** of individuals
- promote understanding & **independence**
- monitor welfare
- **assessment** of progress
- preparation for examinations
- **supervisor's own benefit**

... are fun!

PdOC

March 2017

Finding supervisions

- lecture lists [\[www.timetable.cam.ac.uk\]](http://www.timetable.cam.ac.uk)
 - own subject
 - other departments - related topics
- approach lecturers directly
- talk in Department (who is leaving?)
- e-mail Directors of Studies in Colleges
- timing?
- **need for training & opportunities to do so.**

PdOC

March 2017

2. Postgraduate teaching: opportunities

Graduate programmes: 314

- Doctoral: 111
- Masters: 179
- Diploma: 9
- Certificate: 15

Masters programmes: 179 (of which 141 have teaching)

- Entirely taught: 6
- Predominantly taught: 26
- Equal research/teaching: 67
- Predominantly research: 42
- Entirely research: 38

www.graduate.study.cam.ac.uk/courses

PdOC

March 2017

3. Summer courses and outreach

- Departments: working with schools /colleges, e.g. [msm](#)
- University: [public engagement events](#)
Cambridge Science Festival
Cambridge Festival of Ideas
Open Cambridge weekend
[schools outreach to promote access](#)
- Colleges: [PKP - Pembroke-King's Programme](#)
- Europe and the USA: [workshops for graduate students](#)
- Institute of Continuing Education:
[International Summer Schools](#)
[short and on-line courses](#)

PdOC

March 2017

3a. Summer courses & outreach: links

- Departments: working with schools /colleges, e.g. [msm](#)
- University: public engagement events
[www.cam.ac.uk/public-engagement/public-events](#)
schools outreach to promote access
[www.undergraduate.study.cam.ac.uk/events](#)
- Colleges: e.g. PKP - Pembroke-King's Programme
[www.pem.cam.ac.uk/international-programmes/pembroke-kings-programme/](#)
- Europe and the USA: [workshops for graduate students](#)
[www.shortcoursesportal.com/articles/1139/5-summer-school-subjects-that-inspire-you-to-excel-in-2017.htm](#)
- Institute of Continuing Education: International Summer Schools
[www.ice.cam.ac.uk/courses/international-summer-programmes](#)
short and on-line courses
[www.ice.cam.ac.uk/courses/short-courses-madingley-hall](#)

4. Institute of Continuing Education



Dr James Gazzard

PdOC

March 2017

5. Teaching in the future - TEF

UK government has stated that the TEF will aim to:

- ensure all students receive an excellent teaching experience that encourages original thinking, drives up engagement and prepares them for the world of work
- build a culture where teaching has equal status with research, with great teachers enjoying the same professional recognition and opportunities for career and pay progression as great researchers
- provide students with the information they need to judge teaching quality
- recognise institutions that do the most to welcome students from a range of backgrounds and support their retention and progression
- include a clear set of outcome-focused criteria and metrics.
[www.timeshighereducation.com/news/teaching-excellence-framework-tef-everything-you-need-to-know](#)

5. Teaching in the future - training

Need for training likely.

- Teaching Associates' Programme (TAP):
 - year-long course for early-career postdoctoral staff (and PhD students)
 - supports understanding of teaching and learning in your own subject
 - need for >20 hours' teaching experience before programme starts and >40 hours' experience of teaching in HE by end of programme
 - equivalent of ½ day per week and variety of activities
 - accredited by the Higher Education Academy and gives eligibility to be "Associate" of the HEA

[www.cctl.cam.ac.uk/tap](#)

5. Teaching in the future: issues?

- Accommodate changes in school courses
 - A-levels vs. International Baccalaureate
 - respect and develop additional skills
- Lecturing/teaching styles & use of web resources
- Supervision system: preservation & export
- Range of subjects taught in the University?
- College subject grouping?
- Modular degree courses and/or MOOCs?
- Two year degree courses

PdOC

March 2017