

The view from over the pond

Chris Grovenor representing the UK Heads of
Materials Departments



Graduate intake/Staff FTE

	Graduate intake pa	Full time equivalent staff
Cambridge	30-40	25
Manchester	60	Mat Science – 27, Corrosion – 10 Textiles + Paper - 26
Leeds	15	11
Swansea	40	14
Loughborough	50	18
Imperial College	40	33
Oxford	30	22
Birmingham	40+	25
Liverpool	15	10
South Bank	?	18



Undergraduate intake

Cambridge	650 students admitted each year to read Natural Sciences. Present numbers: Year 1 185; Year 2 50; Years 3/4 18
Manchester	45 for Materials Science and Engineering + Biomedical Materials Science 180 for Textiles based programmes.
Leeds	Now concentrating on MSc and M.Eng
Swansea	20
Loughborough	65-70
Imperial College	85
Oxford	30
Birmingham	25?
South Bank	80+ in first year, 20+ in 3 rd /4 th years



Research funding

	Annual funding 2008	Industry/Research Council/EU		
Cambridge	£8m	29%	58%	13%
Manchester	£6m	10%	80%	10%
Leeds	£1.7m	-		
Swansea	£1.3	-		
Loughborough	£2m	10%	80%	10%
Imperial College	£3-4m	20%	60%	20%
Oxford	£6m	25%	60%	15%



Significant developments

UK Research Assessment Exercise in 2008

- 20 'units' assessed
- performance overall in line with Chemistry and Engineering
- Cambridge, Manchester, Liverpool and Oxford were top 4
- Metallurgy and biomaterials scored well, ceramics less so

UK Centre for Materials Education – 2008 National Subject Profile on Materials as an undergraduate subject.

<http://www.materials.ac.uk/index.asp>

<http://www.materials.ac.uk/subject-profile/report.asp>

- U/G population holding steady at about 400-500 pa
- New demographic developing of 30%+ non-EU students
- external (especially financial) pressures felt by students
- increased admin. burden of changes in quality assurance procedures
- adapting to the changing academic background of student population.



Contribution to other programmes and Masters

Many materials departments contribute to teaching in other faculties.

Bath and Loughborough in Sports Science
Leeds new B.Eng/M.Eng in Materials Science and Eng.

MSc or not?

Not all the large departments operate MSc programmes. There is significant debate as to whether they are money-making or not.

- For instance, Manchester has 3 taught MScs in Polymer Mat Sci Eng, Adv Eng Materials and Textiles with a total of 70 students a year
- Cambridge have one MSc in Nanomaterials with 20
- Oxford does not offer an MSc programme



Major Issues

Difficult to attract industrial funding and low overhead recovery rate on industrial funding --issues heightened by the recession

Difficulties in recruiting U/Gs - could ultimately could threaten the survival of independent u/g programme.

Over dependence on overseas (Asian) students

Closure/merging of independent Materials Departments in UK (worldwide problem?)

“Full Economic Costing” – but funded at only 80%

Impact of reorganisation of EPSRC on Materials.



Research Strategies

Major change in UK scene, with much more emphasis on large integrated projects rather than one PI/one postdoc grants.

- EPSRC has moved towards funding multisite/multi PI grants (Programme /Platform) at between £1-6m. Relationships with other departments /institutions/disciplines increasingly critical.
- EU funding has always been of this type – large collaborative programmes with up to 50 partners



Research Strategies II

US/UK collaboration.

Seen in the UK as a field in which more could be done

- The 2006 Roberts report made some interesting statements about the value of transatlantic collaboration.

<http://www.wolfson.ox.ac.uk/UK-US-Academic-Collaboration/GarethRobertsIPoREx.pdf>

- Recently the “double jeopardy” problem with joint EPSRC/NSF applications has been removed



Research Strategies III

US/UK collaboration.

- citations for co-authored papers 2-3 times higher than papers with only US or only UK authors

FIGURE 1: CITATION PERFORMANCE OF PAPERS WITH AUTHORS IN UK UNIVERSITIES (1994 TO 2003)

