

The Graduate Student Point of View

European Committee for Future Accelerators

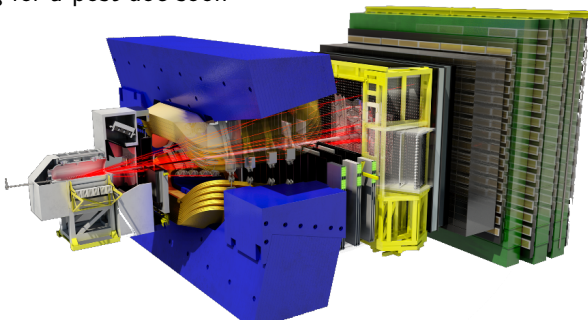
Thomas Bird

University of Manchester

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- I work on LHCb and have been or am studying:
 - ▶ CP-violation in B^0 and B_s^0 mixing (a_{sl}^d and a_{sl}^s)
 - ▶ CP-violation with $\eta \rightarrow \pi^- \pi^+$ decays
 - ▶ Lepton flavour violation in D^0 decays ($D^0 \rightarrow e^\pm \mu^\mp$)
 - ▶ Electron ID studies (PIDCalib)
 - ▶ Optimising the VELO upgrade detector
- Just started 4th year of my PhD and am writing my thesis
 - ▶ I'll be looking for a post-doc soon



UK

- ① 4 year undergraduate MPhys
- ② 3-4 year PhD
- ③ PostDoc and beyond

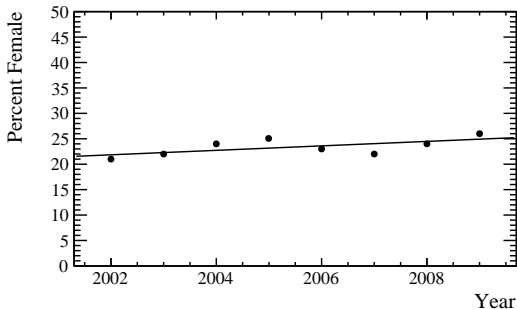
Elsewhere

- ① 3-4 year undergraduate BSc
- ② 1-2 year masters MSc
- ③ 3-4 year PhD
- ④ PostDoc and beyond

- UK government only provides financial support for first degree
 - ▶ MPhys fills gap in funding; straight to a PhD after undergrad
 - ▶ It would be nice to have funds for standalone masters as well
 - ▶ Some institutes abroad don't accept MPhys as masters
- PhD studentships most often provided by STFC in HEP (3.5 years)

- STFC has had yearly questionnaires to students since 2002
 - ▶ <https://www.stfc.ac.uk/1500.aspx>
- STFC also polls past students to track their career
 - ▶ <https://www.stfc.ac.uk/1924.aspx>
- Many following of the plots and numbers are taken from these pages

- As in many areas of physics there are too few women in HEP

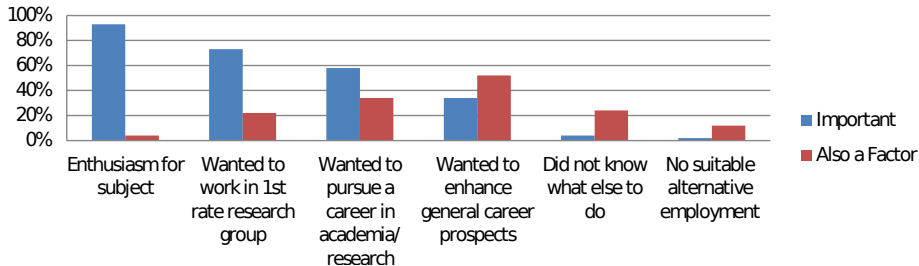


Year	2002	2003	2004	2005	2006	2007	2008	2009
Female students (%)	21	22	24	25	23	22	24	26

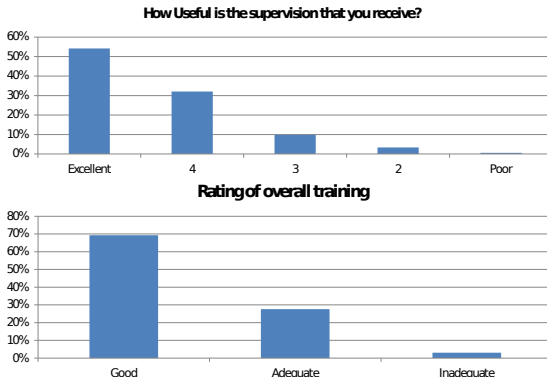
- Extrapolating from this, equal genders doing a PhD by $2066 \pm 1410!$

- Why do people undertake PhDs?
 - ▶ Mostly for the love of the subject (93%)
 - ▶ Want to work in 1st class research group (73%)
 - ▶ Want career in academia (58%)

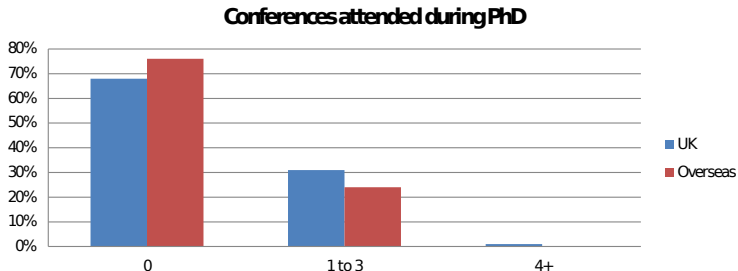
Reasons for undertaking a PhD



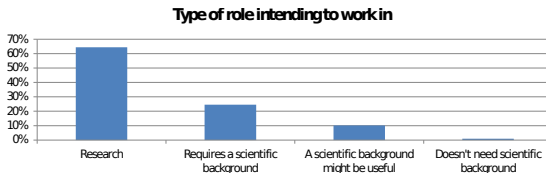
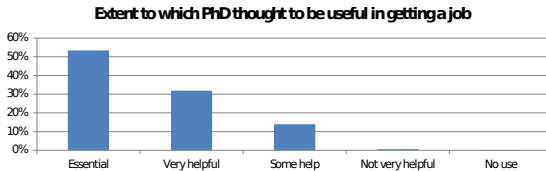
- Supervision generally excellent
- High quality training throughout PhD



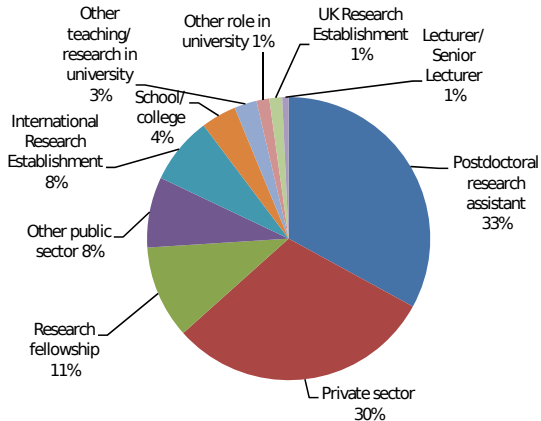
- 68% not attended a conference
- 31% had attended 1-3 UK conferences



- PhD is thought to be essential for future employment
- 64% want a research job
- 25% want a role which requires a scientific background

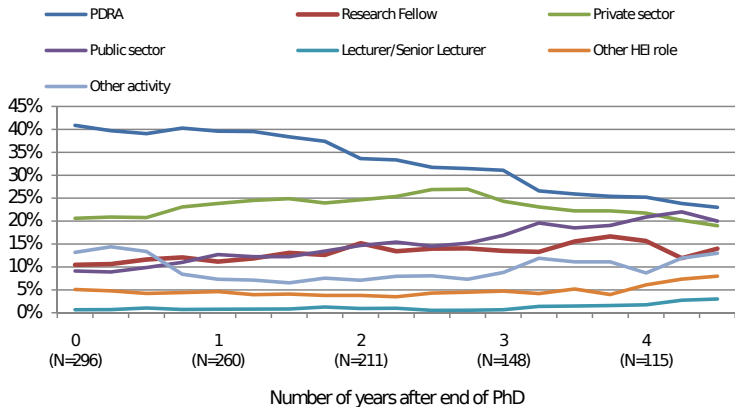


- Turns out 52% of them got research jobs

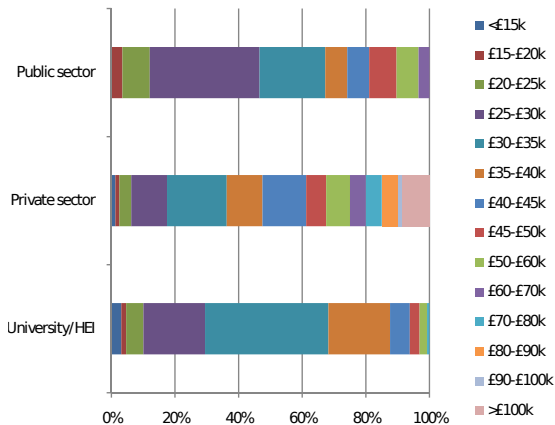


Overview of career destinations

- But it seems that the number of them which stay as post-docs quickly tails off



- Under a third earn over 35k in public sector and universities
- 64% earn over 35k in private sector, about double
 - ▶ A fifth earn over 70k in private sector



Salary levels by employment sector

- Seems few job adverts relative to > 100 HEP graduates/year in UK
- Many contracts are short term, 6 months to 2 years
 - ▶ Moving city or country every few years, makes it hard to settle down
- Combined with relatively poor pay, HEP seems unattractive career
- However, I still want a job in HEP!

- Students generally enjoy their subject and think it's worthwhile
- I think HEP could be a more competitive career
- It would be nice to be able to fund masters
 - ▶ I don't think with current funding any of this can change
- Thanks to STFC for all the great statistics and plots
 - ▶ <https://www.stfc.ac.uk/1500.aspx>
 - ▶ <https://www.stfc.ac.uk/1924.aspx>

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