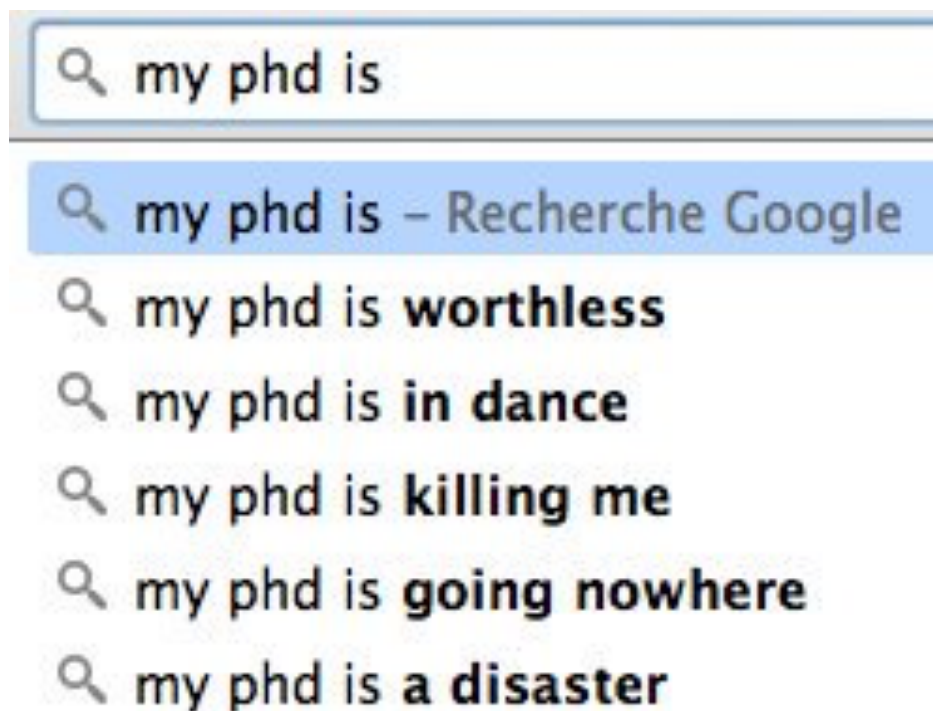


Starting out in academia

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SCI Day of Science and Careers
UCL, 27 March 2018



Academia: a vital business

IN FOCUS Universities UK

THE ECONOMIC IMPACT OF HIGHER EDUCATION INSTITUTIONS

For the full set of reports on the impact of higher education institutions on the UK economy, visit: www.universitiesuk.ac.uk

ECONOMIC OUTPUT



In 2011–12, the higher education sector generated over **£73 billion** of output (both direct and indirect effects).



CONTRIBUTION TO NATIONAL ECONOMY

The UK's higher education sector makes a significant contribution to the national economy.



Higher education contributed **2.8% of UK GDP** in 2011 (up from 2.3% in 2007)...

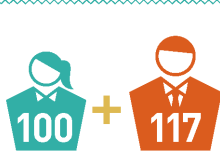


... and generated **2.7% of all UK employment** in 2011 (up from 2.6% in 2007).



UNIVERSITY JOBS

UK universities employed **378,250 people** in 2011, just over 1% of all UK employment in 2011.



JOBS IN THE ECONOMY

For every **100 full-time jobs** at universities, another **117 full-time jobs** are generated in other sectors of the economy.

IMPACT OF SPENDING

University spending has a big impact. Universities generate **more GDP per unit** of expenditure than other sectors including health, public administration and construction.



757,268
jobs

JOBS GENERATED

In 2011–12 the higher education sector generated **757,268 full-time equivalent jobs**.



UNIVERSITY REVENUES

In 2011–12, **less than half** of all revenue to universities was from public sources.

<http://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2014/the-impact-of-universities-on-the-uk-economy.pdf>

Academia: a societal need



GSK @GSK · 16 Jun 2015

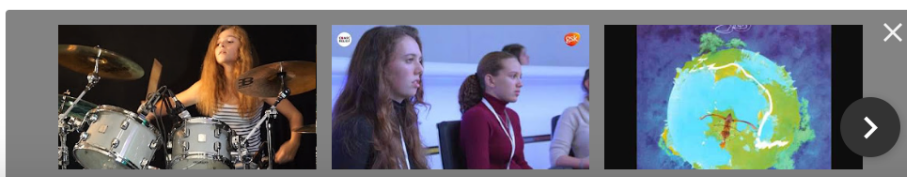
The UK will need another **1.3 million scientists** by 2020 so we're working to inspire the next generation of **scientists**



If there are no scientists, who will cure dis...



1/6



0:00 / 1:35



YouTube

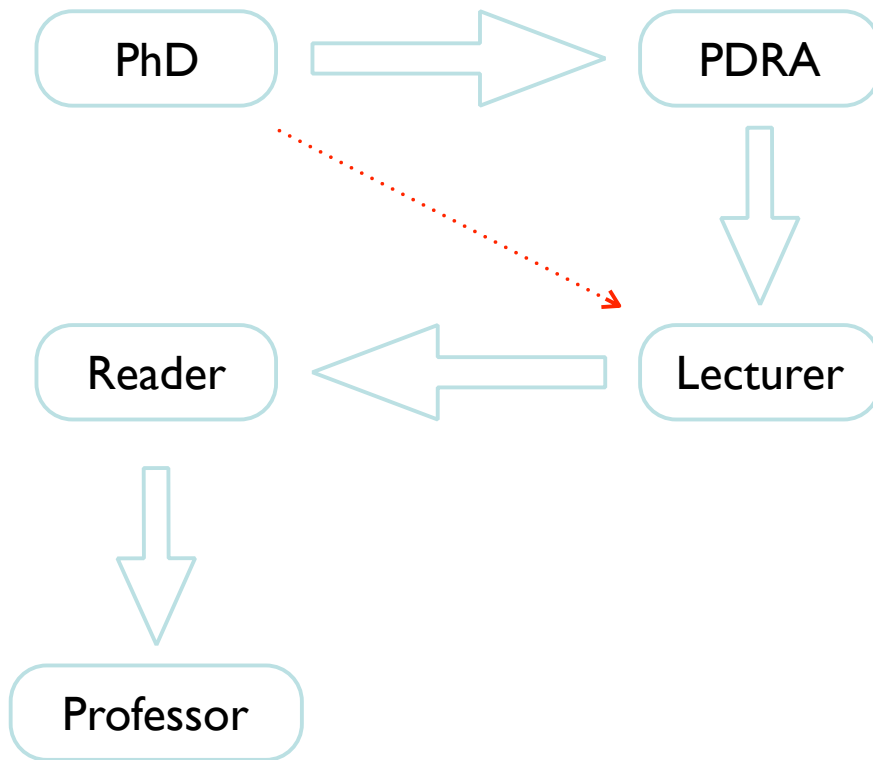


If there are no scientists, who will cure diseases? | GSK

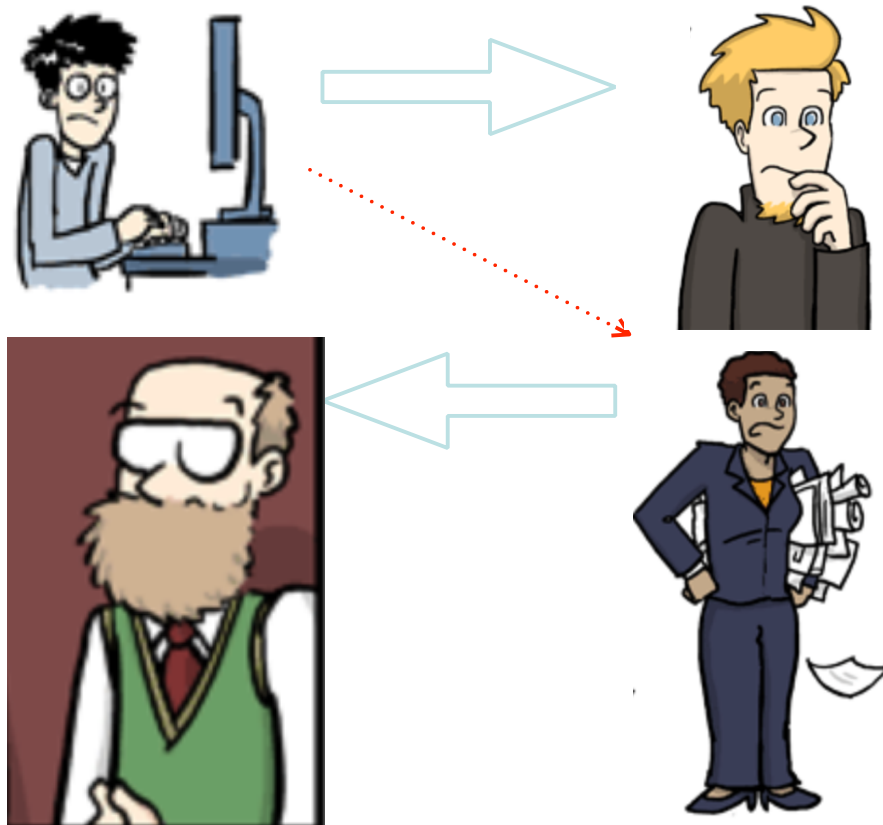
Today's young people and school children are the scientists of the future. ...

youtube.com

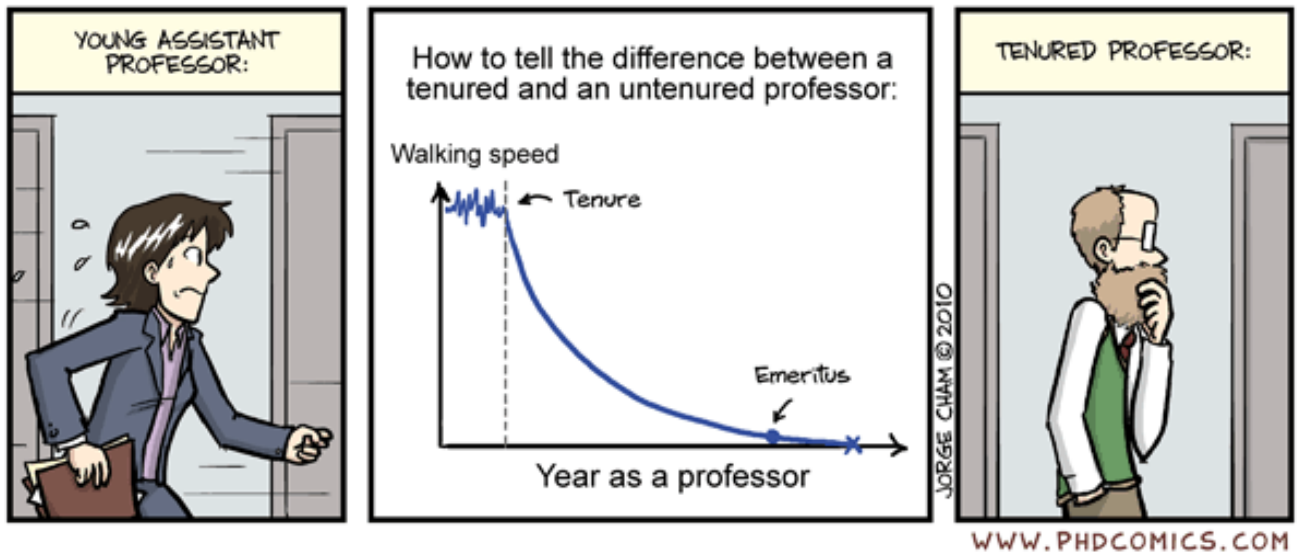
Academia: **career progression**



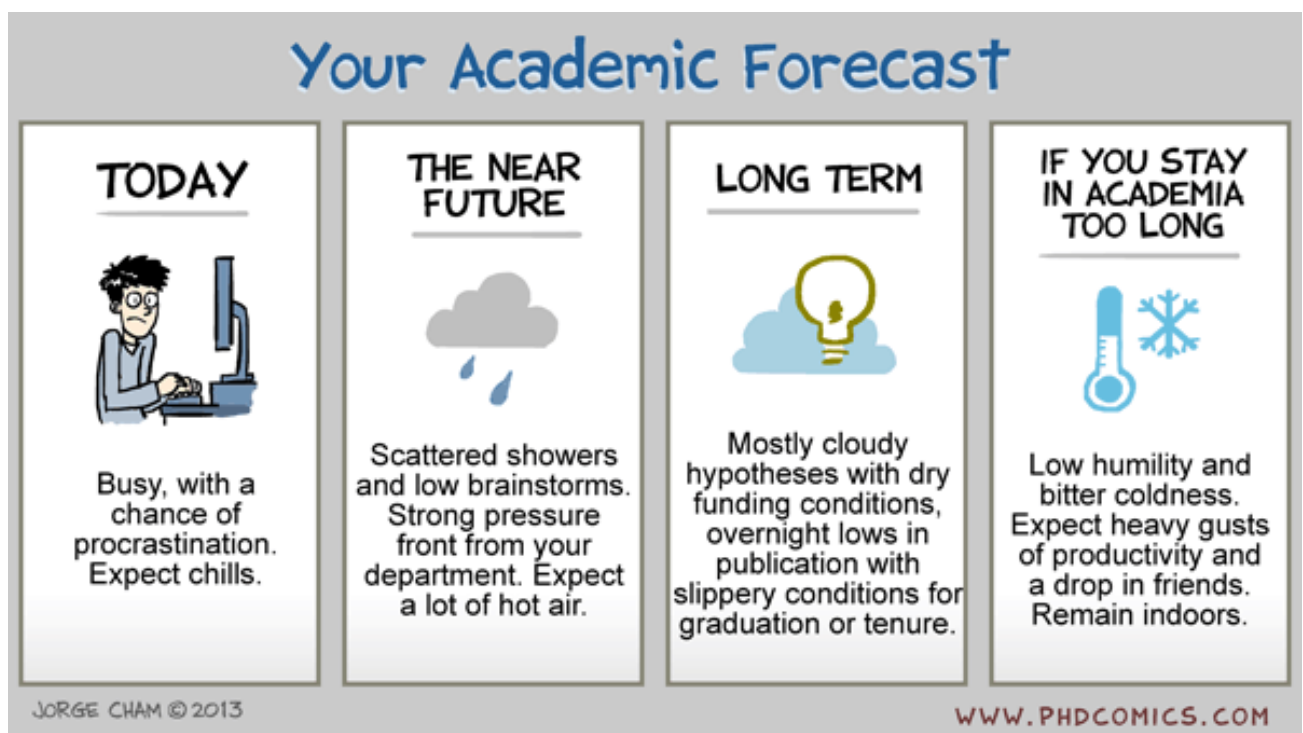
Academia: **career progression**



Academia: **career progression**



Academia: **career progression**



TEF!!

■ Undergraduate

- Lectures
 - core
 - service
- Lab teaching
 - core/service
- Tutorials
- Projects
- Careers
- Pastoral
- ‘Soft’

■ Postgraduate

- Masters
 - lectures/lab classes
- PhD
 - lectures/problem classes

Fees pay the bills

Assessment is main workload

Feedback is essential

NSS...

REF!!

Research in academia: **funding**

- PhD funding
 - UK Govt
 - Loans
 - RCUK
 - DTP, CDT, CASE/iCASE
 - Charities and industry
 - Institutional
- PDRA funding
 - RCUK: EPSRC, BBSRC
 - Responsive mode
 - Targetted calls
 - Charities: Wellcome, Leverhulme
 - Institutional
- Fellowships
 - RCUK
 - Royal Society
 - Charities: Wellcome, Leverhulme

**Funding is
not the
most
important
thing**

*but it's
important*

Research in academia: **collaboration**

- Intra-discipline
- Inter-discipline
- Industrial
- National
- International
- Funded/unfunded

**Understand
partners**

**Manage
expectations**

Be *realistic*

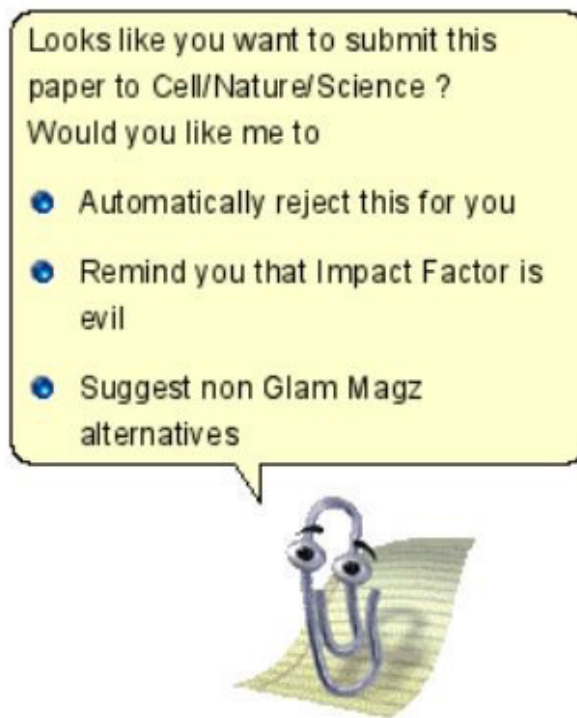
Research in academia: **outputs**

- Peer-reviewed papers
 - Learned society
 - RSC, ACS, RS, SCI
 - For-profit
 - Nature, Science, Cell
- Books
 - Whole works
 - Chapters
 - Editorships
 - Online
- Conference proceedings
 - preclude publication elsewhere
- Preprints....

**Outputs
ARE the
most
important
thing**

*but impact
factor is **not***

Research in academia: **outputs**



Academia: **work-life balance**



Academia: **work-life balance**



Lawrence H. Summers ✓

@LHSummers

Following

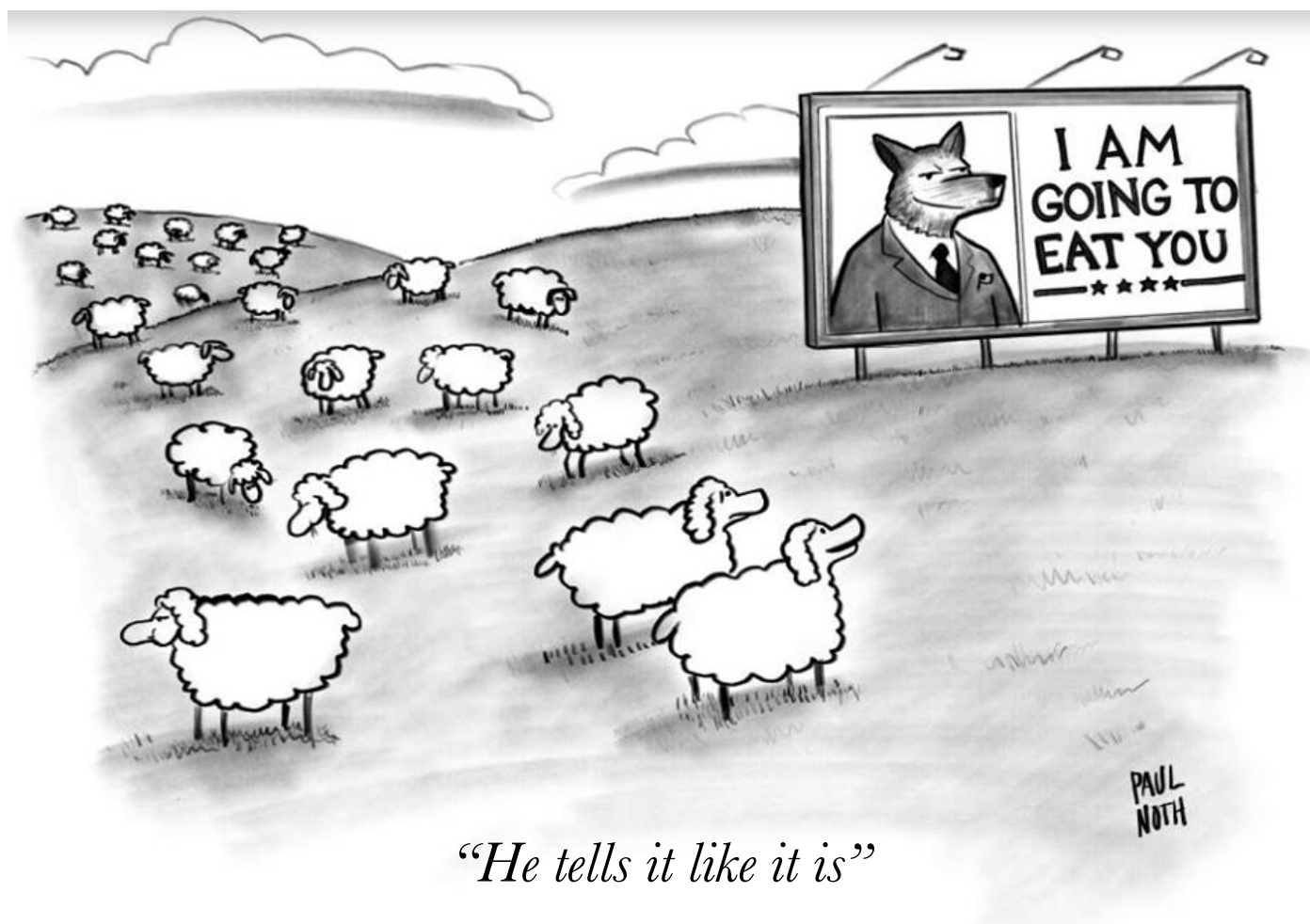
Darwin Was a Slacker and You Should Be Too

<http://nautil.us/issue/46/balance/darwin-was-a-slacker-and-you-should-be-too>

Academia: **work-life balance**

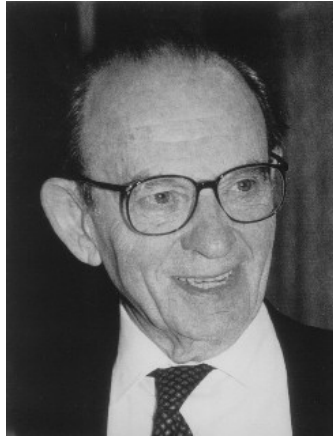


Equality Challenge Unit



“He tells it like it is”

“The toughest question to ask in synthetic organic chemistry after the work is done is: **what have you learned**? And you can have extraordinarily complex things. They look complex as hell. Maybe they have 80 asymmetric centers and **maybe** the answer is...**nothing**. I mean, you could have learned that humans are capable of enormous focused efforts and are capable of sticking with a problem which is extraordinarily complicated. On the other hand, if somebody makes polyethylene, as somebody obviously did, then you learn a lot, even though it will not thrill most synthetic chemists because this would be comparable to building a highway for an architect. I mean, it's important, but it's fairly dull compared to the Guggenheim Museum, for instance... ”



Gilbert Stork

1921-2017

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