# Careers Session

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# My experience

UNIVERSITAT DE BARCELONA

MICHIGAN STATE UNIVERSITY NSCL

UNIVERSITY OF SURREY

UNIVERSITY OF SURREY

## PhD
2002-2007

Funds: Catalan Govern

**VISITING**
- GSI Theory Group
- IPN Orsay
- Tuebingen

**HIGHLIGHTS**
- PhD Thesis
- 9 papers as co-author
- Outreach

## Postdoc
2007-2009

Funds: NSCL (NSF)

**VISITING**
- Washington U. St. Louis
- Santa Barbara

## Marie Curie Fellow
2009-2011

Funds: Marie Curie IEF

**HIGHLIGHTS**
- Single-author paper
- Started supervising

## STFC Rutherford Fellow
2011-2016

Funds: STFC

**HIGHLIGHTS**
- 3 x PhD students
- Workshop organisation
- Outreach

*NSF-funded project*
*Competitive interview*
*2-year contract*

*Wrote a proposal*
*Competitive process*
*No interview*
*2-year Fellowship*

*Wrote a proposal (CV)*
*Competitive process*
*Interview preselection*
*5-year Fellowship*

*No proposal*
*Competitive process*
*No preselection*
*5-year Fellowship*

## Ramón y Cajal Fellow
2020-2025

Funds: Spanish Govern

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# *Prepared questions*

- *What are some **common areas** that could be **improved** in applications?*

1. Candidates often forget proposals must have **breadth beyond nuclear physics**
2. Competing with best researchers in fields of **global** relevance (eg what is dark matter?; exoplanets; cosmology) requires a **good selling pitch** for **scientists**, not just nuclear physicists
3. Theory **not** an **accessory**!
4. You need **demonstrated expertise** (papers & science)

# *Prepared questions*

- *What can an ECR do to develop a **project in their own right**? Are there any particularly good **non-STFC** funding sources available?*

1. A **Fellowship** is the **best way** to develop **individual leadership**
    1. ERC@EU
    2. Marie Curie@EU
    3. Humboldt@Germany
    4. Juan de la Cierva/Ramon y Cajal@Spain
    5. JSPS@Japan
2. Ask your **international** partners!

# *Prepared questions*

- *How does the **development process** for new (large- and small-scale) projects work, and what are the typical timescales?*

1. It **takes time** no matter what
2. Do not **rush** proposal development
3. **Share with colleagues** (out-of-field) in time
4. Good **PIs** will give you time to **explore**

# *STFC/RS Fellowship Proposals*

- Spend time and **think about it**
- What is the **physics context?**
- Why are **you** the best candidate?

- Address a **physics problem** <u>you can solve</u>
  - Not “continuation of previous programme”
  - Not “my experiments” + some theory…
  - Not “what this group does”

- Theory not an **accessory!**

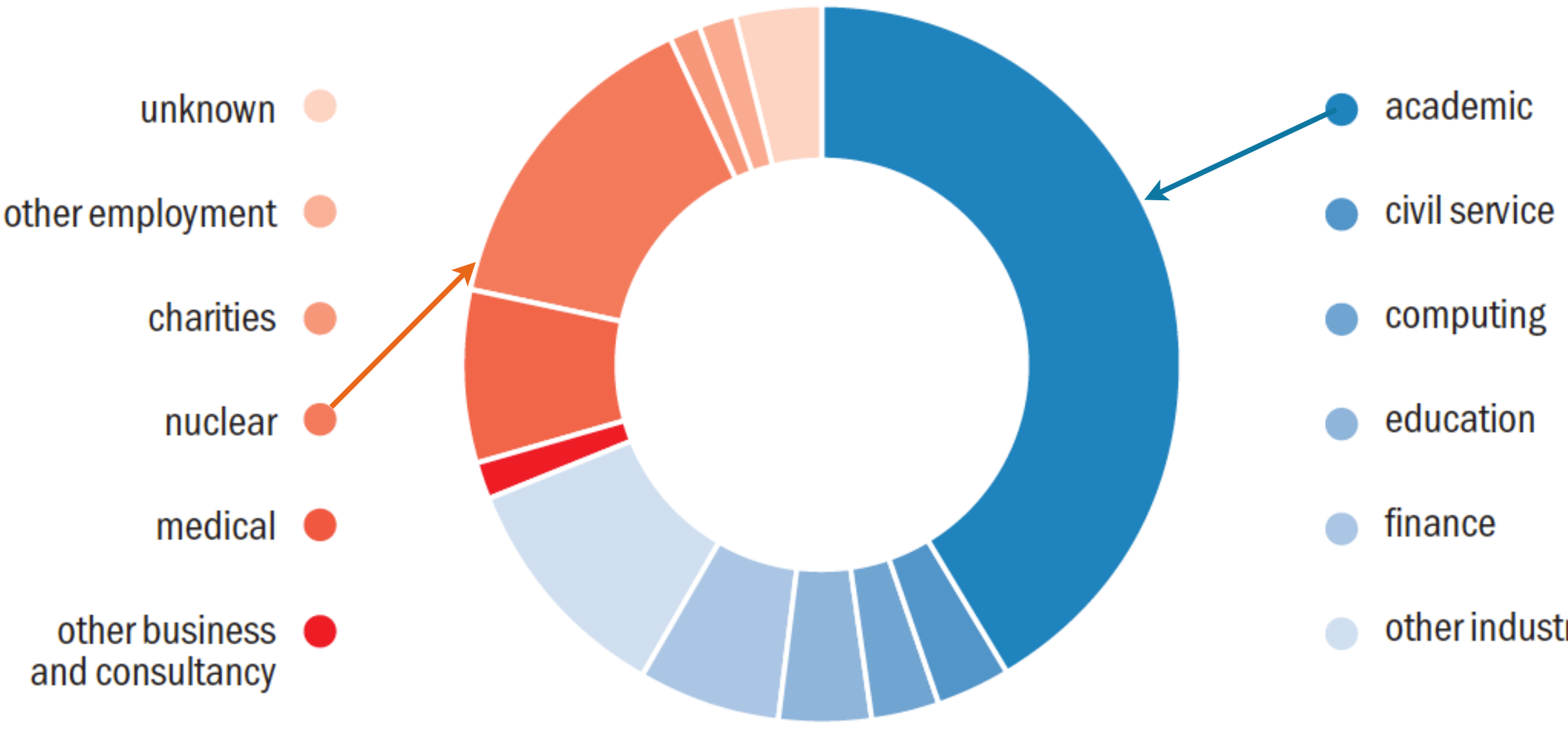
*Interview advice*
https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1007163

# *Answer the questions*

- Why do **you** want to get this Fellowship?
- Why **now**?
- Why fund this project & not another?
- Why **this institution**?
- If you are **NOT** awarded the Fellowship, what will you do?
- What is the **single** most important potential result from your proposal?

# Career destinations

**Figure 13:** Destinations of PhD graduates in nuclear physics since 2003




The vast majority of non-academic jobs are within **UK industry**, with very few relocating abroad. A significant number of graduates undertake **postdoctoral** research, mainly within nuclear physics, but often outside the UK.

*IoP Review on Nuclear Physics (2012)*
http://www.iop.org/publications/iop/2012/file_58792.pdf
http://www.iop.org/careers

# Postdoctoral experience

**Figure 1:** Length of time spent undertaking postdoctoral research by gender and department of respondents

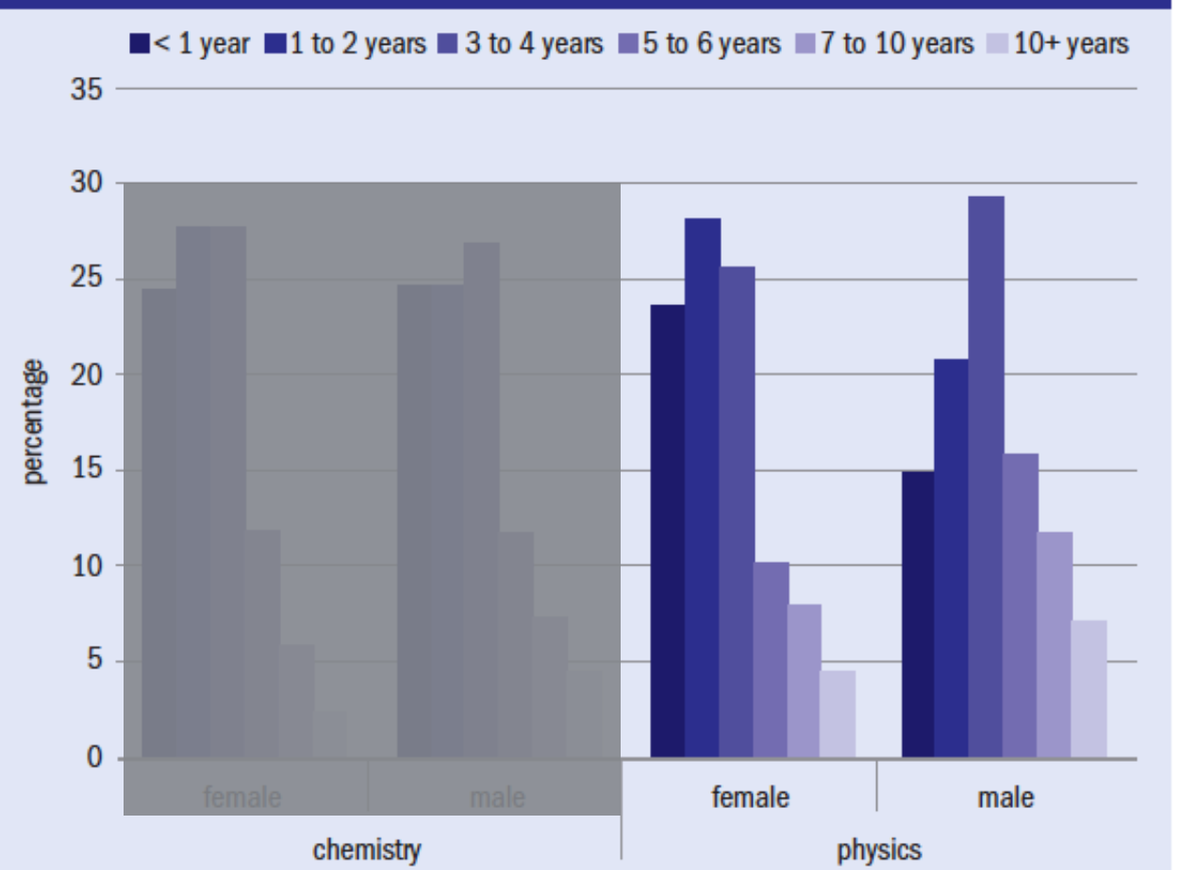
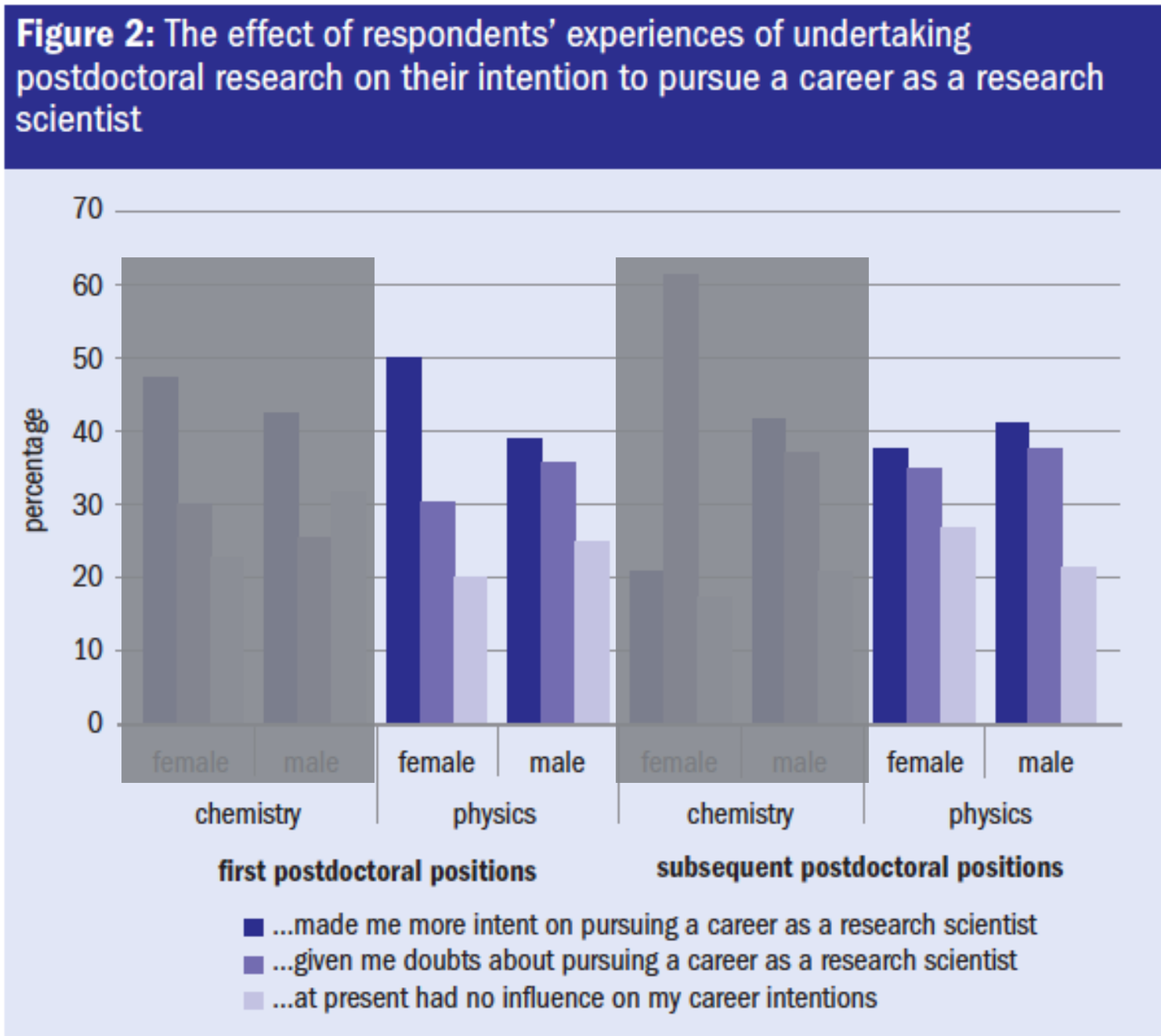



**Figure 2:** The effect of respondents' experiences of undertaking postdoctoral research on their intention to pursue a career as a research scientist




[Mapping the Future (2011 Report)](http://www.iop.org/publications/iop/2011/page_50579.html)
http://www.iop.org/publications/iop/2011/page_50579.html

# *Future possibilities*

## Available UK funding

- **Fellowships**
  - Royal Society Newton Fellowship (2 years)
  - Royal Society University Research Fellowship (5 years)
  - STFC Rutherford Fellowship (5 years)
  - UKRI Future Leaders (5 years)

- **Bilateral travel opportunities**
  - Royal Society International Exchanges