Career Opportunities in Research

Miep Helfrich
University of Aberdeen
Career “planning”
Different careers in science

Research within academic institutions

- Postdoc (not group leader)
- Independent research fellow (group leader)
- Academic (lecturer, senior lecturer, professor)

Researcher in industry
Work in funding of science
Editorial work for journal/publisher
Communication of science
Science museum/festivals
Patent writer
Nationalities present at this course

UK
Denmark
Netherlands
Belgium
Sweden
Spain
Italy
Portugal
Slovenia
Germany
Egypt
What does an academic/lecturer do?
this is what you said:

Lectures (prepare and give) Hopefully read up on topic first!
Write grants!
Supervision of students
Deals with “burocratic issues”. Mostly administrative work
Reads loads of emails
Goes to meetings of research societies
Goes to staff meetings
Proof reads papers
Reviews papers for journals
PhD vivas
Clinical trials work
? Some bench work, very little

TIME SPENT ON RESEARCH: 0-80% (most think <20%)
What does research fellow/postdoc do? this is what you said:

Benchwork
Write papers
Write grants
Supervise students
Prepare presentations
Read papers
Set up collaborations
Data analysis
Some teaching
Checking bibliography

TIME SPENT ON RESEARCH: 60-100% (most think ~80%)

Dependent on the number of technicians 10-50% Netherlands!
What you did not say:

Reviewing grants
Marking exams
Recruitment of staff
“Managing grants”, i.e., expenditure, reporting
Writing references for staff/students

Arranging examinations for students (find examiners)
Organise seminars/speakers
Having responsibility for areas outside your lab
e.g., safety adviser, leading a core facility
Committee work for external group, e.g., ECTS committee

These become increasingly part of your workload as you get more experienced
Some myths about careers in science

You will be job hunting all the time
You will be poor, promotion chances are slim
You will need to travel around
You will never be off work
Career development options for young scientists in Europe

Miep Helfrich, educated in The Netherlands, currently in UK
BSc-MSc (7 yrs), PhD (3.5 yrs)
Research assistant, Postdoc (8.5 yrs), - 2 children- promoted
Independent Research Fellow (8 yrs), - 2 children- promoted
Senior lecturer from 2005
Differences with North America, but not Asia

Europe consists of many different countries with their own:

- Laws
- Language
- Cultures
- Research Structures

Many countries have already existing collaborative arrangements with other countries

Largest structure is the European Union with many schemes for scientific exchange and collaborative programmes of research
Differences between European countries

Undergraduate degree courses vary in length
age at entry into a PhD programme can vary between 20-27

Postgraduate (PhD) programmes differ in length (from 3-7 years)
and in remuneration (from being in a “job” to still being a
“student” on a stipend)

Moves are underway to harmonize higher education degrees within
Europe (Bologna agreement)
see for text: http://www.hefce.ac.uk/partners/world/bol/

Few countries have a well-established post-doc structure

Independent fellowships are very competitive and low in number

In many countries in Europe research at the bench is carried out
almost exclusively by PhD students and technicians
Issues to consider as postdoc

- How can I get further training to develop as an independent researcher?
- How can I stay or move into my chosen area of expertise?
- If I move to another country, will I be able to come back?
- Will I be too old to get tenure/academic position?
Issues for postdocs

Many countries within Europe have limited opportunities for postgraduate research training. Postdocs do not see a clear "career structure" ahead. Opportunities for entry into academic (tenured) posts is limited.

HOWEVER, there are opportunities within Europe. EU grants have increased postdoc opportunities within Europe. Some countries DO have excellent postdoc opportunities. I moved from NL to UK for 1st postdoc.
UK career structures for academic vs research only posts

parallel career structures

Undergraduate

Postgraduate (PhD)

Postdoc (Research Assistant)  Grade 6  Lecturer

Research Fellow  Grade 7  Lecturer

Senior Research Fellow  Grade 8  Senior Lecturer

Senior Research Fellow  Grade 9  Reader

Senior Research Fellow  Grade 10  Reader

You increasingly move from “taking part” in research to “leading research”

You start to apply for your own funding and build up your own team
Other opportunities

Independent fellowships

Exist in many countries

Administered by Academies of Science/Research Council/Charities
or independent organisation, e.g., EMBO

Highly competitive

But:

Gives opportunity to apply for your own funding

You don’t have to be a citizen of the country as long as you apply to work in the country making the award

Not always a difficult process to follow (Royal Society in UK)

Good opportunities for promotion to higher grade research fellow (UK)
What is new/changing?

European Research Council (ERC)

Budget €5bn until 2013
Run by scientists
1st call for “young scientists” (2-9 yrs post PhD)

any discipline (expect 35% in life sciences)
only criterion is scientific excellence

1st call 2007 >9000 applications were received

About 250 awards have been made (around €1M each!)

600 additional evaluators had to be drafted in
What is great about a research career in Europe over the USA?

Great Universities, old and new

Funding situation is currently better than in the USA

Many countries in Europe have excellent research infrastructure e.g., independent research institutes

European countries are well connected through a variety of research programmes

Widen your horizon, make contacts for the future

Europeans are less competitive (?)

Holidays 5-6 weeks/yr !!

Health and safety says: No sleeping in the lab !!
Europe is beautiful

Many well-established research societies in the bone and mineral field

National and European/Scandinavian/German-speaking/ etc. etc. societies

They meet in fantastic locations:

The definitive postdoc’s travel guide through Europe
Why should a European PI consider taking on postdocs from abroad?

Because it is good for research

Integrate different viewpoints; different ways of working/cultures

Encourage the best people to stay on in research

HR will deal with contracts/ work permits etc.

Know the rules of employment of non-EU citizens
Why should you hire a European postdoc? thinking from an non-European perspective

Well educated and in many cases highly experienced

Generally good with language and adaptable

Contribute to the cultural mix in your lab (great parties!)

They often go back after some years (good/bad??)

Get to know your (future) competitors/collaborators

So you European postdocs are definitely competitive!
Issues for PIs hiring postdocs from another country/continent

Duration of PhD can vary between 3-7 years

In many countries students submit 4-5 research papers

In other countries students write a “big book”

Consider that “a postdoc” can be at different stages of becoming independent.

Look at scientific age, not chronological age of candidate

As a researcher be aware your PI may not realise all of this, so make it clear in your CV or covering letter
Some practicalities

**Housing**: usually not provided by employer, colleagues will help out

**Language**: English is widely spoken throughout Europe

**Teaching**: often in the language of the land!
   not a problem for a research post

**Health insurance**: in most countries either compulsory insurance, or National Health Service paid out of taxes

**Family matters**: vastly differing, but overall good parental leave

**Equal opportunities** legislation is strict within EU member states, you are entitled to the minimum leave, or to work part time

**Contract**: generally fixed term. This become illegal after renewal once in post for 4 years, but most countries have found ways round this.
Know what you want
Know yourself

- - and be ready to change / express yourself
Analyse your strengths
Analyse current position

• use careers and other services
• use mentor/adviser
• complete sections of work
• write and submit
• investigate funding sources
How you can be funded

First responsibility is to deliver

Some input into application

Application for salary
Joint with PI - roles?

You make the running
What is important in your CV and for promotion

Generally those with a PhD and working in research posts will be placed in grade 6 (UK).

To progress up from there you have to show you have developed from someone who takes part, to someone who becomes increasingly leading in the research activity.
In a research role the most important element in your CV is: 

BEING PRODUCTIVE

Publications:
good (high impact) 1st author papers
Look up “web of knowledge”
then select the portal to all journals to find journal citation index.
What is really important:

BE PRODUCTIVE

Publications:

High impact papers are generally large collaborative multi-disciplinary efforts; you may share first authorship or be co-author.

You may wish to indicate in your CV what your specific role was in a paper, e.g., *I performed all the experiments on XYZ, produced figures 1 and 2 and wrote parts B and C of the manuscript.*

Remember:

It's not “where you work”, but “whether you are productive” that counts.
What is really important
BE PRODUCTIVE

Grants:
not always easy as junior post-doc,
be pro-active and get involved
starting points:
travel, endowments, small equipment grants
co-write project grants
contribute justifications to equipment grants

Always ask to see the grants that fund your post
What is of **additional** importance

**Teaching**

- (co)supervise students (honours/ BMed Sci/ MSc/ PhD?)
- take part in (mock) examinations
- contribute to lecture series
- provide training in new/core techniques
- chair journal clubs/method clubs

*usually only limited time for this (~10%)*
**Contribute** group/department/theme/institute/college

- run lab/look after equipment/induction
- introduce new techniques/equipment/give advice ("consultant")
- run of journal clubs/labmeetings
- set up network/be active member of postdoc group/
- be “mentor” for junior colleagues/organise social events

Pick something that suits your personality, so that it comes easy. Play to your strengths, remember these are “extras”.

*What is of additional importance*
What is of additional importance

Become established in your field

- collaborate with others within and outside the university
- present at conferences
- speak at seminar series
- (co)write review
- review papers/grants
- apply for grants (regular info from R& I)

BE VISIBLE!!!!

- suggest speakers for seminars
- be active in your professional organisation at your level,
  e.g., help organise a career event/suggestions for workshops, etc.
What is less important

Working full time/taking time off for family reasons

- it is academic age, not chronological age that counts
- part time researchers do get promoted; it may take longer

Moving around/being a “scientific nomad”

- it is important to experience different ways of working/
  - **DO** try to work in more than one lab during your career
- you do not have to physically move away from your lab
- try short (1-3 months) exchanges (bring back new technique)
- try intensive collaborations (you go there and vice versa)
Oops, what do I do in my normal daily work.....

What is my main priority?
1. Research project (BE PRODUCTIVE)
2. Teaching
3. Organisational/other roles

Who am I responsible to?
All of the below:
   My PI
   The university/“they”
   The funding body
   Myself

What if I do not know??
• Talk to PI
• Appraisal, take it seriously
• Find out more by networking
• Look up websites of funding bodies, university, HR, postdocsoc
How do I reconcile the focus on delivery of research objectives with my own personal development?

The University is committed to everyone.

“Achieving your potential”

This is ultimately in the interest of your employer!

Funders DO pay for people in higher grades and they WILL fund the difference if you are promoted.

Your PI/line manager should allow you to develop to reach your full potential. It reflects very well on the PI if one of his/her former postdoc goes on to a tenured post. It is part of the Concordat between funders and universities to develop skills.

All is easier if the research goes well, so DO show you are committed to being productive and BE productive!
Possible points for discussion

How to best lay out your CV??
  Cultural/national differences

How do you know what your strengths/weaknesses are?
How to make the best of your qualities?
  Does appraisal help? Does mentoring help? Can ECTS help?

Where would you go for help in career/promotion issues?
  How can the university best help you? Can ECTS help?
  “on-line” mentoring?

    Some institutes have a postdocsoc,
    Is this helpful?
    Should ECTS have a “virtual” postdoc soc?
Aberdeen University Post-Doc Society

Home | Forum | Retreat Info

Welcome to the future Aberdeen University PostDoc Society website. This website has two areas, the website and a forum for PostDocs to get in touch with each other and discuss some of the issues that face us.

In order to establish a CLSM society and give postdocs a chance to meet each other, we have organised a postdoc weekend retreat. Full details are available here, or on the forum. Although the retreat has been organised by postdocs from the College of Life Sciences and Medicine (CLSM), we also welcome interest from people in different colleges in Aberdeen University.

CLSM PostDoc Retreat 2006
"Selling your science yourself"

Nethy House,
Inverness-shire

Fri 8th to Sun 10th September

35 Places

- Relaxed, informal environment to meet your peers
- Address issues facing your success in science
- What can SDU and CLSM do for you?
- Establish a CLSM PostDoc Society

Click here to find out more information and register
Possible points for discussion

How to best lay out your CV??
  Cultural/national differences

How do you know what your strengths/weaknesses are?
How to make the best of your qualities?
  Does appraisal help? Does mentoring help? Can ECTS help?

Where would you go for help in career/promotion issues?
  How can the university best help you? Can ECTS help?
  “on-line” mentoring?

  Some institutes have a postdocsoc,
  Is this helpful?
    Should ECTS have a “virtual” postdoc soc?