# Postdoc World

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## What is postdoctoral research?

Research by someone who has completed doctoral studies

#### Then there is a

- Postdoctoral Research Fellow (fanciest..)
- Postdoctoral Research Associate
- Postdoctoral Research Assistant
- Postdoctoral Research student

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Postdoctoral Research Coffee Preparator (least fancy)

Conducted at a *different* lab then the lab that awarded PhD Between 1-18 years (average is 2-3)

Connected to some PI (Principal Investigator)

## Why a postdoc?

#### Essential for academic career:

KTH (since 2011): To become a assistant professor you have to do a Postdoc at a different lab

The big choice: Academy or Industry

If not sure: Do a Postdoc! (then you probably know)

#### Last chance to get your hands dirty:

Write a DNS code or setup experiments

Change topic and be brave

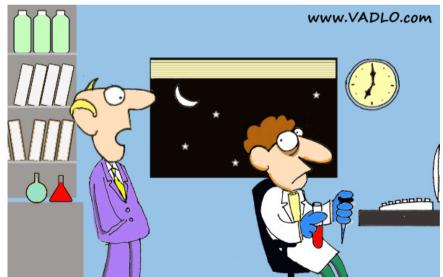
Write a Science paper (In 1999, 25% of first authors in Science were postdocs)

If you have one paper only (in Science), then publish 10 JFM's

# Typical postdoc

- Single
- No children
- Many publications from PhD
- Supervisor with big name
- University with a big name
- Works until midnight





"Just work till midnight, you need to relax too"

## My experience

One year in Italy – Genova as a Marie Curie Fellow

#### Scientific Output:

Wrote a DNS Code

1 PRL Paper

Life-long collaborators

Organization of a different lab

Different working atmosphere

Many new ideas...



## How to find funding?

#### Ask the host

Find who got ERC advanced/consolidator/starting grant
Find who works at EPFL, Cambridge, ETH (proper employment)
Most places (US,Sweden, Spain, Italy, France) stipends
(unfortunately)

#### Get your own (gives independence)

EU: Marie Curie Fellow

VR: Postroc

Stipend: Svenska-Amerikanska stiftelsen, Göran Gustafsson,...

# Marie Curie Intra-European Fellowship for Career Development

Eligible: PhD from a EU country\* going to another EU country

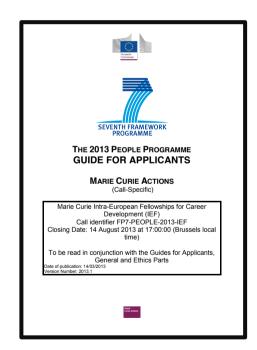
Mobility criterion: no more than 3 months spent in host country

Period: 12-24 months

Call: once per year (last time 14<sup>th</sup> August)

Salary: extremely good

- Monthly allowance (€5000/month)
- Mobility allowance (€1000/month)
- Contribution to promote mobility (€800/month)
- Contribution to overhead (€700/month)



http://ec.europa.eu/research/mariecurieactions/

\*also some Associated States, like Norway, Switzerland, etc.

#### LIFE CYCLE OF AN IEF Publication of the call INDIVIDUAL EXPERIENCED RESEARCHER HOST ORGANISATION Stage 1 Proposal Preparation JOINT PROPOSAL NOMINATION OF 5months REFEREES Deadline ELIGIBILITY Unsuccessful CHECKED Successful Stage 2 Proposal Evaluation Unsuccessful 2 months Must have Successful your PhD degree NEGOTIATION Stage 3 Earliest start is Negotiation and Selection COMMISSION DECISION 2 months 6-8 months after Unsuccessful deadline SIGNATURE OF GRANT SIGNATURE OF AGREEMENT BETWEEN HOST AGREEMENT BETWEEN Stage 4 ORGANISATION AND THE REA HOST ORGANISATION AND ELIGIBLE EXPERIENCED **Grant Agreement** RESEARCHER Preparation 2 months PRE-FINANCING TO HOST ORGANISATION START OF WORK Start of the project Stage 5 MID-TERM RESEARCH REPORTING Start of work and training/research programme FINAL REPORTING 12-24 months MONITORING BY REA SERVICES COMPLETION OF PROJECT FOLLOW-UP OF CAREERS OF RECRUITED EXPERIENCED RESEARCHERS, DISSEMINATION OF RESULTS AND BEST PRACTICE

### MC: Who decides and how

#### 8 different panels

- Chemistry, Science and Engineering, ...
- Evaluators are not fluid dynamicists

#### What to they look at:

- CV (25% Weight)
- Implementation (15%)
- Training (15%)
- Impact (20%)
- Research quality (25%)

75 % of weight is CV independent

Have to score above threshold.

Acceptance rate about 20%

## MC: Who decides and how

### 2.1 IEF-Funding Scheme 'Support for Training and Career Development of Researchers': Marie Curie Intra-European Fellowships for Career Development

Criteria				
S&T Quality (award) Threshold: 3, Weighting:25%	Training (award) Threshold: 3, Weighting:15%	Researcher (award) Threshold: 4, Weighting:25%	Implementation (selection) Weighting:15%	Impact (award) Threshold: 3.5; Weighting:20%
Priority in case of ex aequo				
3	2	1	5	4
Research/technological quality, including any interdisciplinary and multidisciplinary aspects of the proposal	Clarity and quality of the research training objectives for the researcher	Research experience **	Quality of infrastructure / facilities and International collaborations of host	Impact of competencies acquired during the fellowship on the future career prospects of the researcher, in particular through exposure to transferable skills training with special attention to exposure to the industry sector, where appropriate *
Appropriateness of research methodology and approach	Relevance and quality of additional research training as well as of transferable skills offered, with special attention to exposure to the industry sector, where appropriate *	Research results including patents, publications, teaching etc., taking into account the level of experience	Practical arrangements for the implementation and management of the research project *	Contribution to career development, or re- establishment where relevant *
Originality and innovative nature of the project, and relationship to the 'state of the art' of research in the field		Independent thinking and leadership qualities	Feasibility and credibility of the project, including work plan	Benefit of the mobility to the European Research Area
Timeliness and relevance of the project	Measures taken by the host for providing quantitative and qualitative mentoring/tutoring	Match between the fellow's profile and project	Practical and administrative arrangements, and support for the hosting of the fellow *	Development of lasting cooperation and collaborations with other countries
Host research expertise in the field		Potential for reaching or re- enforcing a position of professional maturity *		Contribution to European excellence and European competitiveness regarding the expected research results
Quality of the group/scientist in charge		Potential to acquire new knowledge		Impact of the proposed outreach activities *

<sup>\*</sup> Sub-criteria to be evaluated in the light of the principles of the 'European Charter for Researchers' and the 'Code of Conduct for the Recruitment of Researchers'. <a href="http://ec.europa.eu/euraxess/pdf/brochure\_rights/am509774CEE\_EN\_E4.pdf">http://ec.europa.eu/euraxess/pdf/brochure\_rights/am509774CEE\_EN\_E4.pdf</a>

<sup>\*\*</sup> Any leave of absence in the research career of more than one year such as maternity/parental leave, sick or family care leave, military service, humanitarian aid work, etc. will be taken into account.

## MC: How much work is it?

One full month once you have an idea (26-30 pages).

Host PI must spend one full week (think about this before you choose PI)!

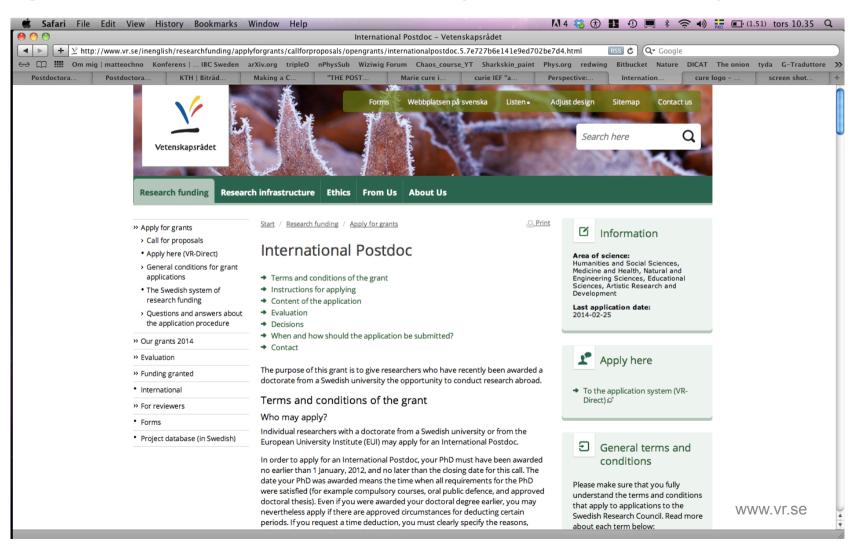
Iterate 10 times with PI to converge the whole package.

[Show proposal]

[Show evaluation]

## VR (Swedish Research Council) international postdoc

Eligible: PhD from a Swedish university not older than two years



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Eligible: PhD from a Swedish university not older than two years

Period: 18-36 months (spend last part in Sweden, reintegration)

Call: twice per year (next one in Feb)

Salary: very good

- 900 000 kr/year in salary
- 150 000 kr/year project funding (traveling, etc)

Will be employed by a Swedish University but work abroad.

# **VR Life Cycle**

- 1. Apply in Feb (or Aug)
- 2. Decision in June
- 3. Start in July

Acceptance rate 15%

Only one panel in Natural and Engineering Science

Often (but now always) external experts as evaluators

Weight between CV, proposal, host etc unclear (blackbox)

## Preparation

Find a host university abroad

Find a host university in Sweden (tip: check overhead)

Write application mostly on your own (18-20 pages):

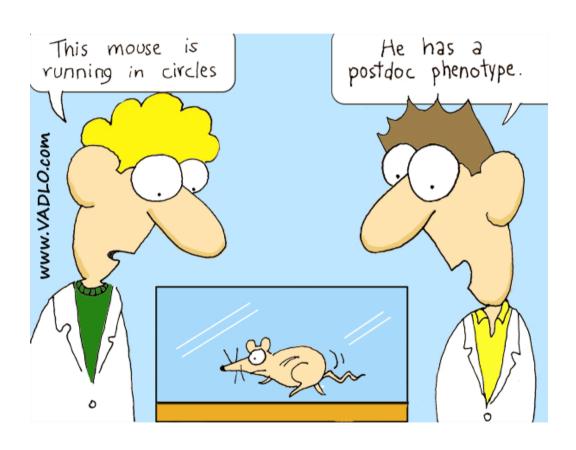
- Summary
- Popular science description (in Swedish)
- Research programme (Appendix A)
- CV/Scientific qualifications (Appendix B)
- Publication list (Appendix C)
- Administrating organisation in Sweden (Appendix c6)
- Host institution abroad (Appendix c7, two pages)
- Description and justification (Appendix c8)
- Signatures (Appendix S)

[Show proposal]

[Show evaluation]

## Be careful of the Postdoc trench

Jumping from one postdoc to another until your are too old to get a academic position



#### General advice

Your first step towards independence!

Be brave: Choose a different topic!

- Go to seminars
- Talk to other senior colleagues than your supervisors
- Go to other sessions at APS

Plan one year before PhD defense

- find calls and deadlines
- plan to have your PhD fully done (certificate) before deadlines

Aim high: Harvard, Cambridge, Princeton

Don't forget most important: nice location, nice beaches, good food