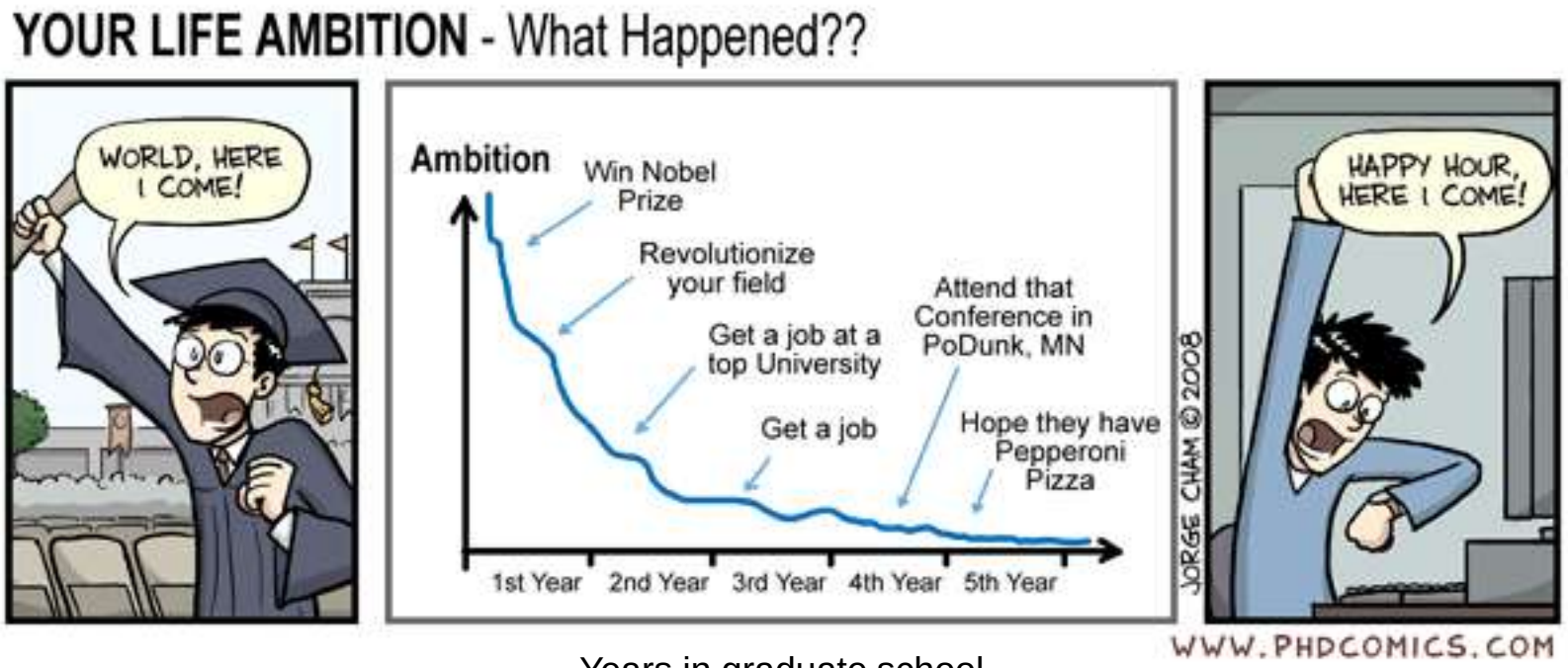
How to get to
build your own lab

Fundación
Centro Nacional de
Investigaciones
Cardiovasculares
Carlos III

Jorge Alegre-Cebollada

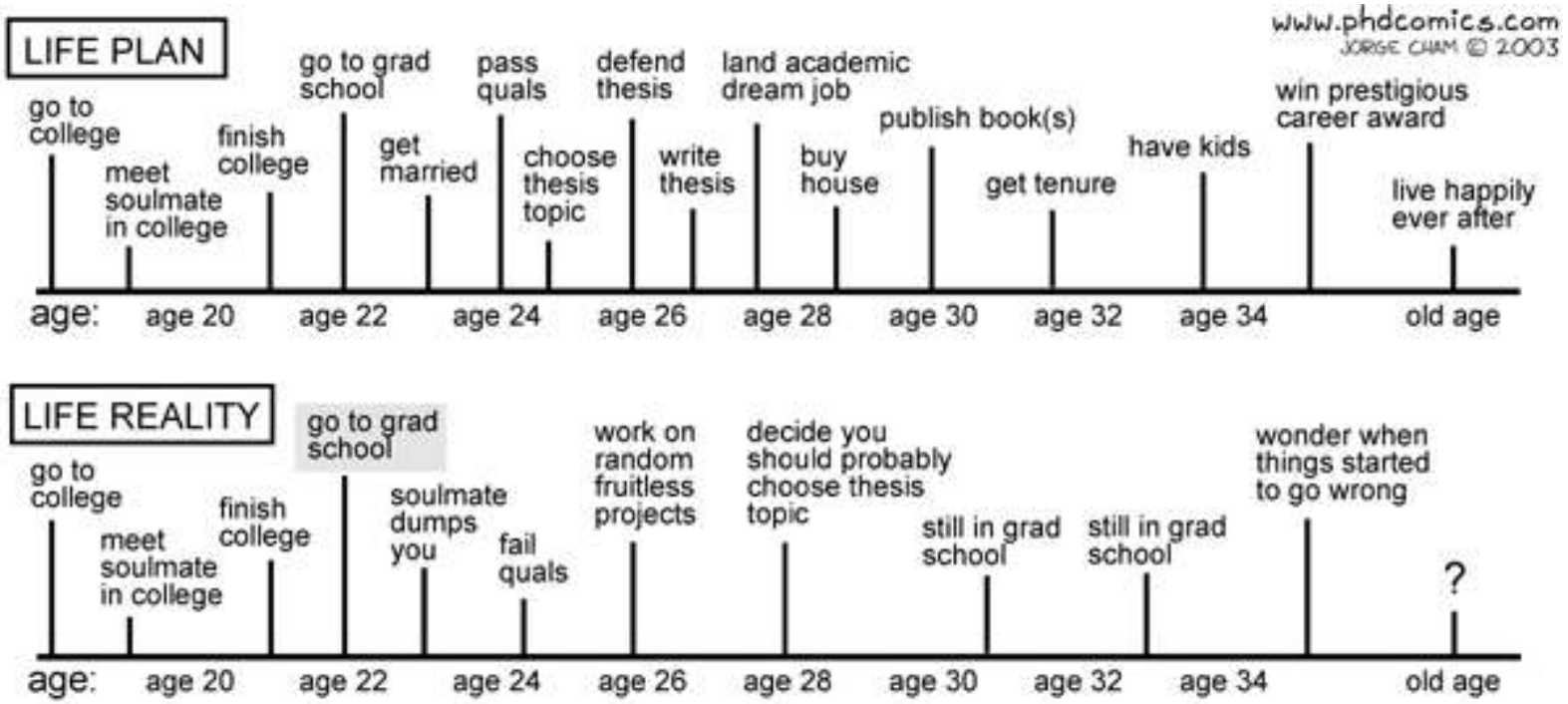
A variety of career expectations



Years in graduate school

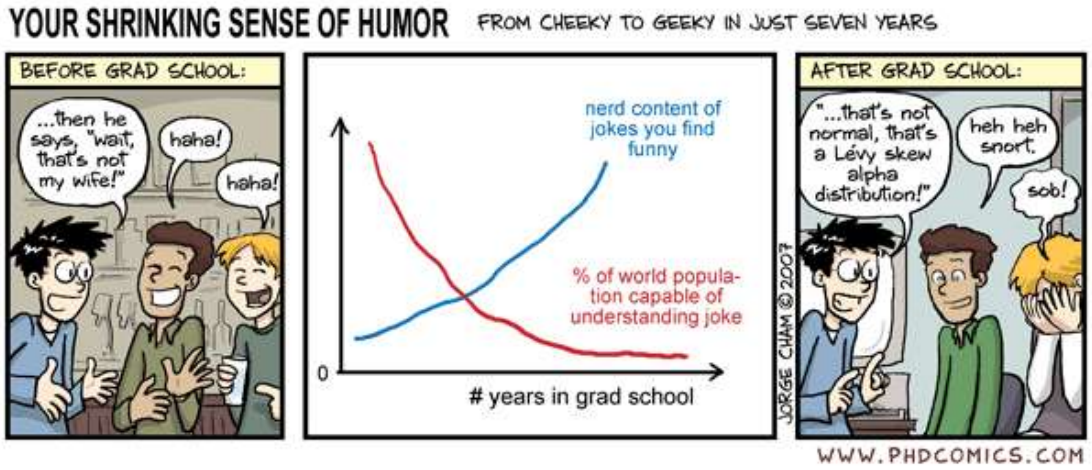
At CNIC we are not allowed to have happy hours…
so you better finish your PhD in 4 years!!!

Life & career planning: keep a flexible focus

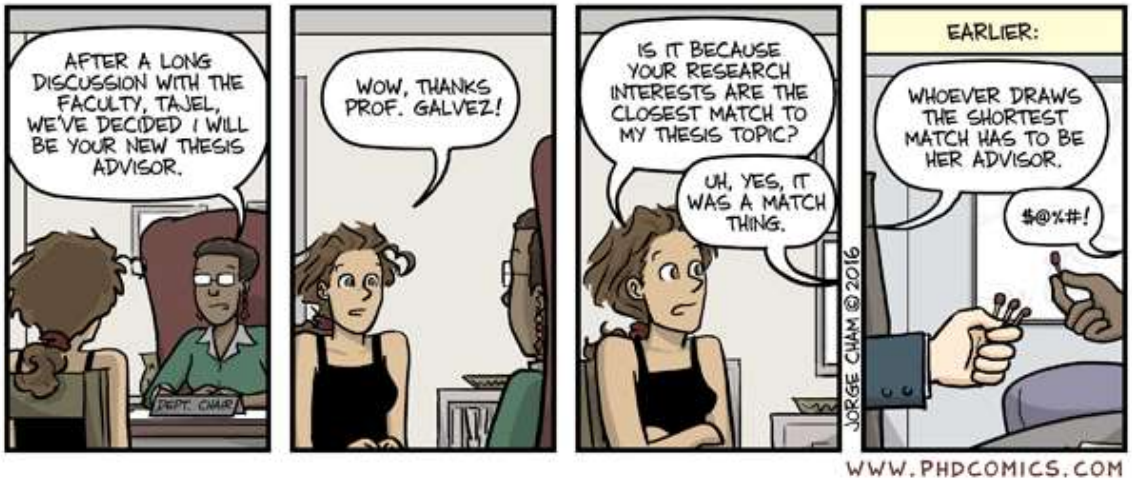


What should you aim at as a PhD student?

- Graduate school is not only about having a project and getting it published.
- Graduate school is a **formative period**: learn techniques, start writing your papers and proposals, ask questions in seminars, talk to international speakers and collaborators, develop critical thinking... You are a PhD student to become a scientist!
- Do not isolate yourself in your bench, visit other laboratories, different countries, go to conferences... Think that in 4 years you have to have an idea on what to do next!



How to choose a lab for your PhD?



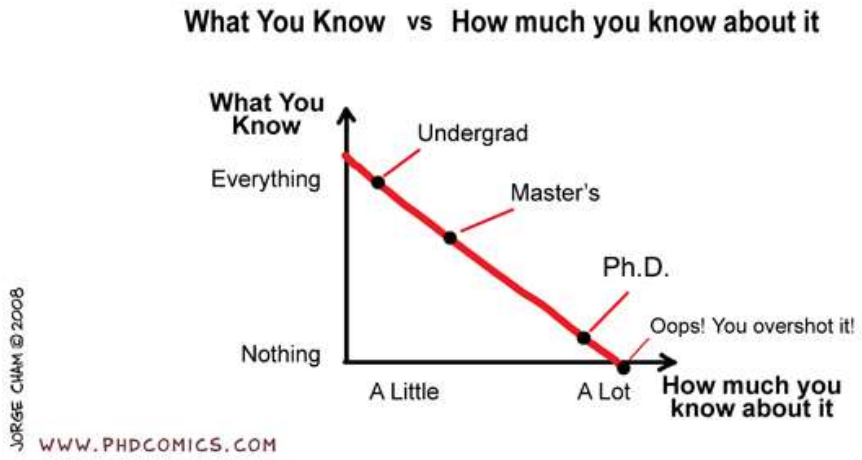
- The topic of the project has to be exciting to you... You'll spend a lot of time working on it.
- Quality of training provided by the group
- Track record of publications and funding of the lab
- Do you agree with the philosophy of work of the lab?
- If possible, do a rotation in the lab before committing for the PhD
- Quality of the scientific environment

Is CNIC a good place to do your PhD?

- Research topics
- Quality of training
- Rotation in the lab before committing for the PhD: Cicerone, internships, etc.
- Quality of the scientific environment: SEMINARS!!!
- Thesis committee: you get two extra mentors for free
- Very good facilities, and technical and administrative support
- Happy hour

What should you aim at as a postdoctoral researcher?

- Your postdoc is not only about having projects and getting them published.
- Postdoctoral scientists are also in a **formative period**: learn novel techniques, write your papers and grant/fellowship proposals (secure your own funding!!!), supervise students, improve your soft skills, help your supervisor with administrative chores, do networking, teach...
- It's always a good idea to change fields of research while still benefiting from your previous expertise. Aim at build your own reseach niche where you can take advantage of both your PhD and your postdoctoral training.



How to choose a lab for postdoctoral training?

Questions to ask yourself that will help you make the right decision:

- Do you want to become a group leader?
- Do you want to gain more experience and then move to industry?
- What subjects of research are you interested in?

How to choose a lab for postdoctoral training?

- Start thinking about posdoctoral training at least 6 months before graduation
- Listen to your supervisors and mentors
- Find out about the track record of the lab: do all postdocs get faculty positions?, do postdocs get 1st author papers in top journals?
- Talk to the people in the lab
- It's not only the lab, it's the scientific environment!

Is CNIC a good place to do your postdoc?

- ✓ Research topics
- ✓ Quality of training
- ✓ Quality of the scientific environment: SEMINARS!!!
- ✓ Very good facilities, and technical and administrative support
- ✓ ✗ Scientific environment, but limited options to establish your own lab in Spain
- ✗ Options to obtain independent funding in Spain
- ✗ Happy hours

The transition to your first independent position

This is a tricky period of your career: exciting, overwhelming, long, a time for compromises… a prelude of what being a PI means

- Job market for faculty positions is very competitive
- A good publication record is needed, but not enough
- Good match between you expertise and the institution goals!
- Don't put all your eggs in a single basket
- Send out several applications to different places: be open about relocation
- Don't rush to make a decision once you start having offers

Working toward job offers (a general overview)

Application package

- Cover letter
- CV
- Independent research program
- Teaching statement
- Recommendation letters

On site interview(s)

- Seminar about past research
- Chalk talk about future projects
- Meeting with faculty members: remember they want to hire a colleague!
- Interview works both ways!

You have a job offer… and now what?

Some things to consider (and negotiate) before accepting an offer:

- The most important: will you be able to develop your research plan?
  Start-up funds, positions covered, lab & office space, teaching duties, facilities
- Will you be able to collaborate with some of the faculty?
- How will your research plan be improved by the institution?
- Will your salary be enough considering cost of living?
- Spouses & family

Full disclosure: we always talk about ourselves

UNIVERSIDAD COMPLUTENSE MADRID

COLUMBIA UNIVERSITY

2004 2008 2014

PhD in protein biochemistry

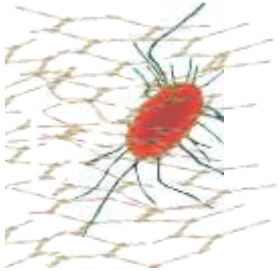
Mechanism of pore formation by actinoporins

Sea anemone

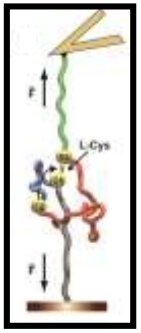
Nematocysts

Postdoc in single-molecule biophysics

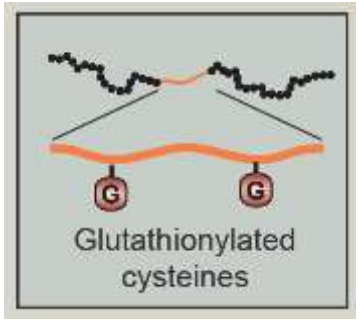
Protein mechanics



Bacterial adhesion



Chemistry under force



Titin elasticity (from 2011)

Single-molecule Mechanobiochemistry

Cristina Sánchez, Diana Velázquez, Carla Huerta, Carmen Suay, Elías Herrero-Galán

Resources

Downloadable book from www.hhmi.org

Science careers website

- How-To Series Collections

Nature jobs website

- Career toolkit pages

Some final remarks and take home messages

- Keep a flexible focus
- Find out as much as you can about the labs or institutions you plan to join. Keep in mind that the scientific environment is also important.
- You become what surrounds you
- PhD and postdoctoral periods are formative
- Getting constructive feedback is key: engage and take care of mentors
- Networking is central to career development