



# Information session on the PhD

School of Engineering

November 7, 2019

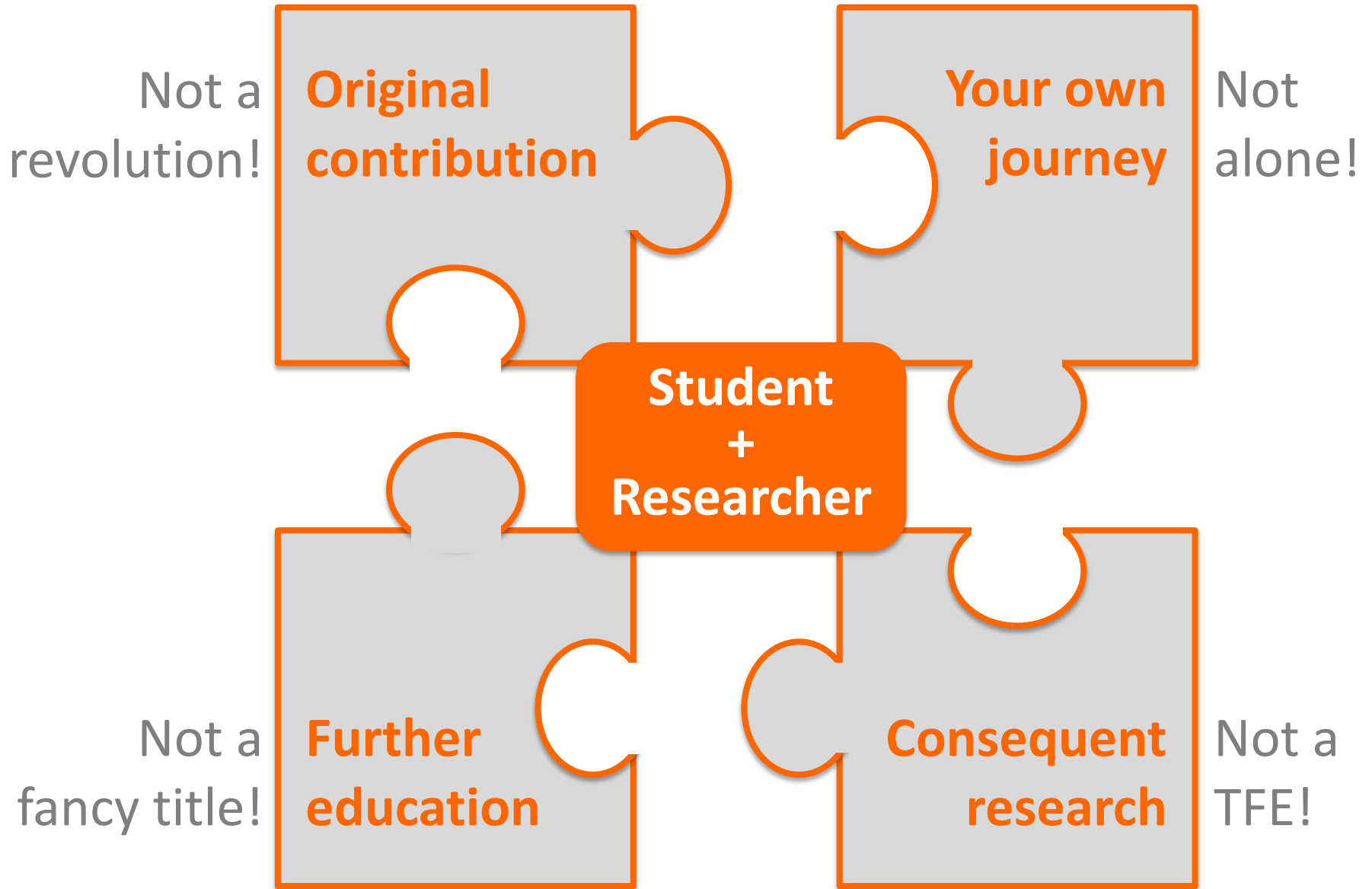


**LIÈGE université**  
**Sciences Appliquées**

# Outline

- **The PhD in general**
  - Practical aspects about the PhD
  - Testimony from the industry
  - Posters and informal discussion

# What is a PhD?




# What is specific to a PhD?

## International exposure

- Collaborations
- Research stays
- Conferences

## Publications

- Journals
- Conferences

- 
- Visibility
  - Feedback
  - Professional network

# What will I learn?

## To become a scientist

- **Expert** in your field
- **Independent** and **creative** researcher
- **Analytical** and **critical** thinker
- Good **communicator**
- **Collaborator** with other research teams

## ... and an innovator

- Drive **innovation**  
(condition for survival in the future)
- Understand **complex** topics
- Tackle **new** problems
- Work **internationally**
- **Lead** research teams

# Am I cut for a PhD?



Motivated?



Curious?



Independent?

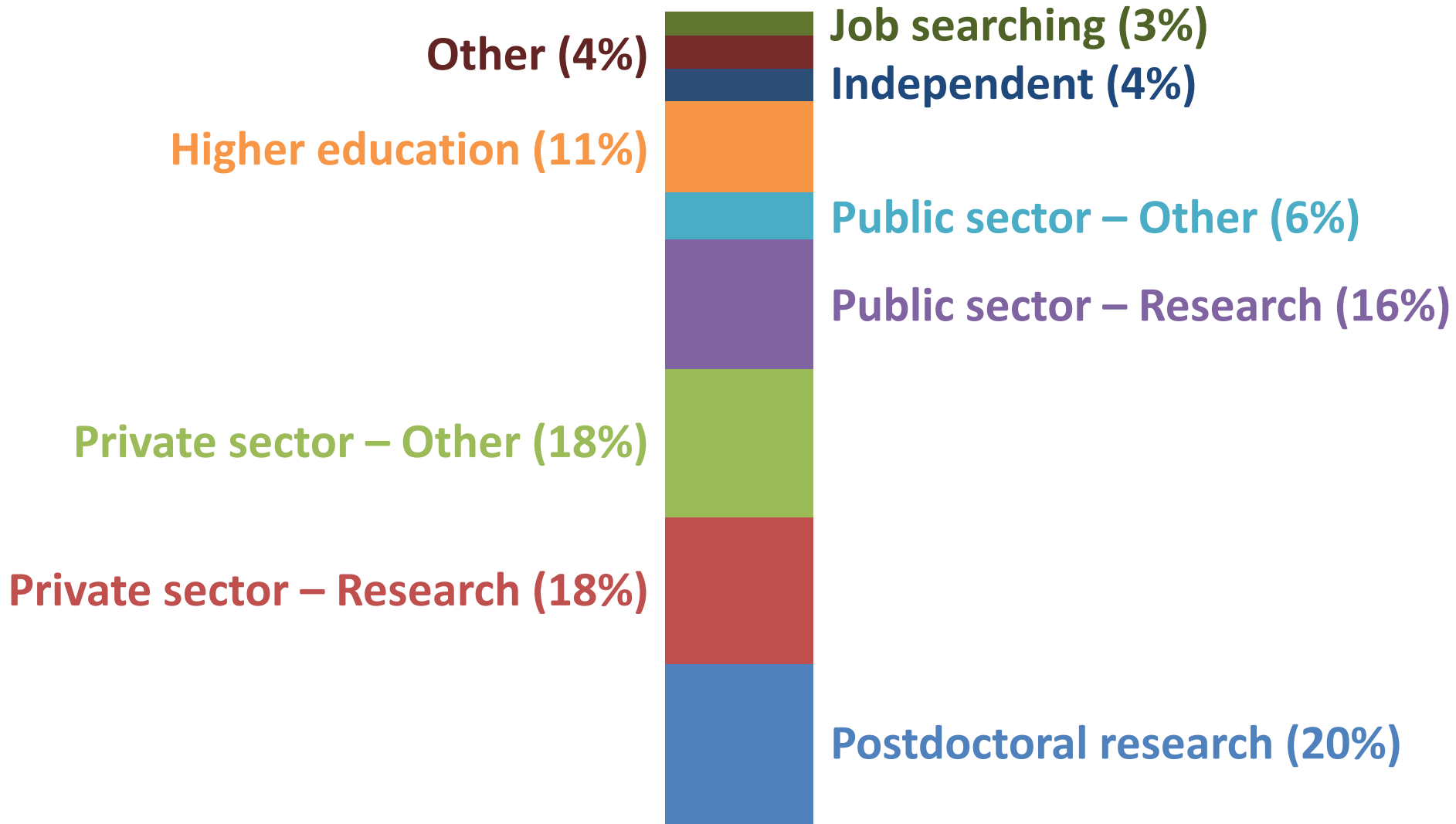


**Good PhD candidate**

**No need to be a genius!!!**

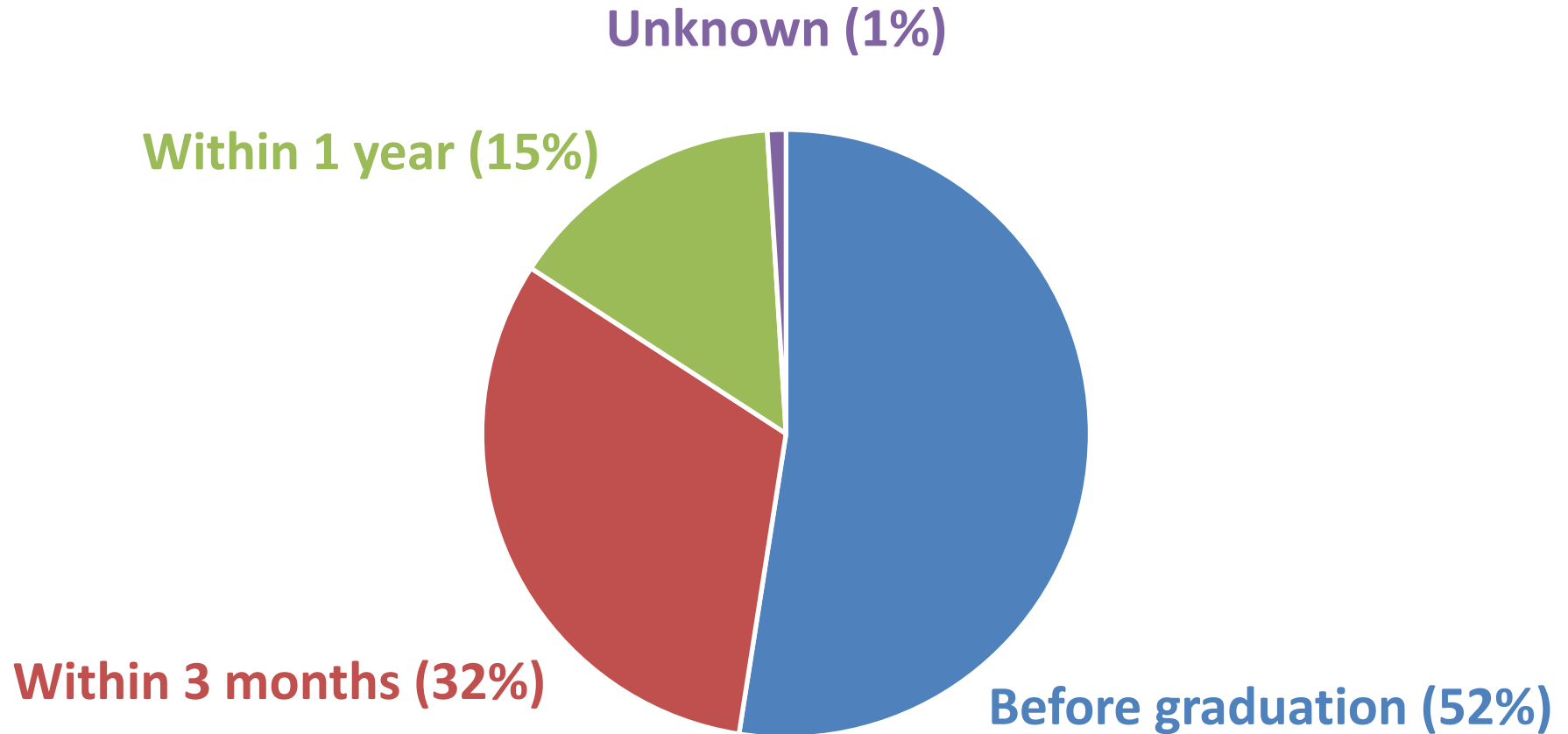
# What could I do after a PhD?

Employment after PhD of FSA graduates (2013-2017)



# What could I do after a PhD?

Time to employment of FSA PhD graduates (2013-2017)

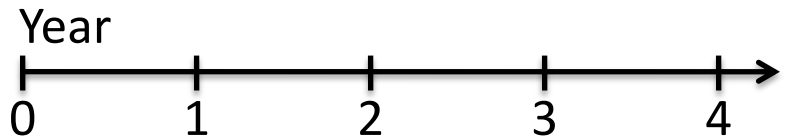




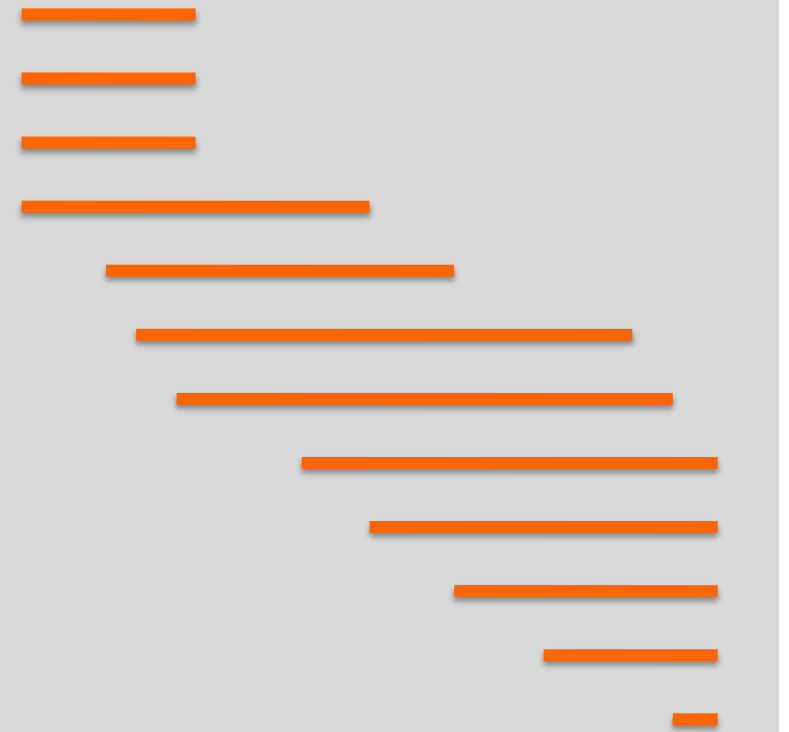
# So, how does it work?

## Tasks

## Approx. timeline



- Familiarization with subject
- Literature review
- Research definition and structure
- Advance courses
- Tools/experiments development
- Measurements/simulations/...
- Results analysis
- Conference presentations
- Papers publications
- Refinements and optimization
- **Written thesis**
- **Oral defense**



# What is the role of the advisor?

Advisor = Mentor

## A guide to help you ...

- defining and **structuring** your project
- identifying potential issues and **solutions**
- developing your scientific **network**

## An evaluator who will ...

- provide **feedback**
- follow your advancement
- **assess** your results

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# What are the requirements?

## To start a PhD

- Master degree (300 credits)
- Adequate grades (one prior “Distinction”)
- A research topic
- An advisor and adequate funding

## To complete a PhD

- Minimum 3 years
- 60 credits of **doctoral training**
- Written **thesis**
- Oral **defense**

# What is the doctoral training?

## Thematic training

- 3<sup>rd</sup> cycle courses
- Topical seminars
- Specialized courses
- ...

**Min. 15  
credits**

## Generic (soft) skills

- Language / communication courses
- Teaching assistantship / supervision
- Research stays abroad
- ...

**Min. 10  
credits**

## Scientific production

- Conferences and seminars
- Articles in peer-reviewed journals (min. 1)
- ...

**Min. 25  
credits**

**Min. 60  
credits**

# How can I finance my PhD at ULiege?

Funding source	Topic	Deadlines
FNRS Fellowship	Free	~ Feb. 2020
FRIA Fellowship	Free (“industrial”)	~ Aug. 2020
Teaching Assistantship	Free	~ Jun. 2020
Research project	Imposed by project	Case dependent
PhD in company	Imposed by company	None
Other (industry, own funding)	Free	Case dependent

# How does it work abroad?

## Belgium

Same as ULiege

## Abroad

- Often similar to Belgium
- Master thesis is a good entrance door
- Check university website
- Contact potential advisor for availability
- Talk to faculty members at ULiege



USA

- Start application **1 year before** PhD start (deadline in the Fall)
- Need TOEFL + GRE
- Application fee
- Qualification exam (“quals”)

# What are the next steps?

1. **Talk** to faculty members and other PhD students about **opportunities** and experiences
2. **Identify** potential **topic** that interests you and **advisor** with whom you would like to work
3. **Discuss** directly with your future advisor about concrete steps to take and funding options



# Where can I find more information?

## ULiege

- Réseau des doctorants ULiege ([www.red.ulg.ac.be](http://www.red.ulg.ac.be))
- PhD at ULiege ([https://www.enseignement.uliege.be/cms/c\\_9096635/en/doctorate](https://www.enseignement.uliege.be/cms/c_9096635/en/doctorate))
- PhD in the Faculty of Applied Sciences ([https://www.facsa.uliege.be/cms/c\\_3230106/en/facsa-doctorat](https://www.facsa.uliege.be/cms/c_3230106/en/facsa-doctorat))
- Pars-en-thèse ([www.ulg.ac.be/books/pars-en-these](http://www.ulg.ac.be/books/pars-en-these))

## Belgium

- FNRS ([www.frs-fnrs.be](http://www.frs-fnrs.be))
- doctorat.be ([www.doctorat.be/en](http://www.doctorat.be/en))

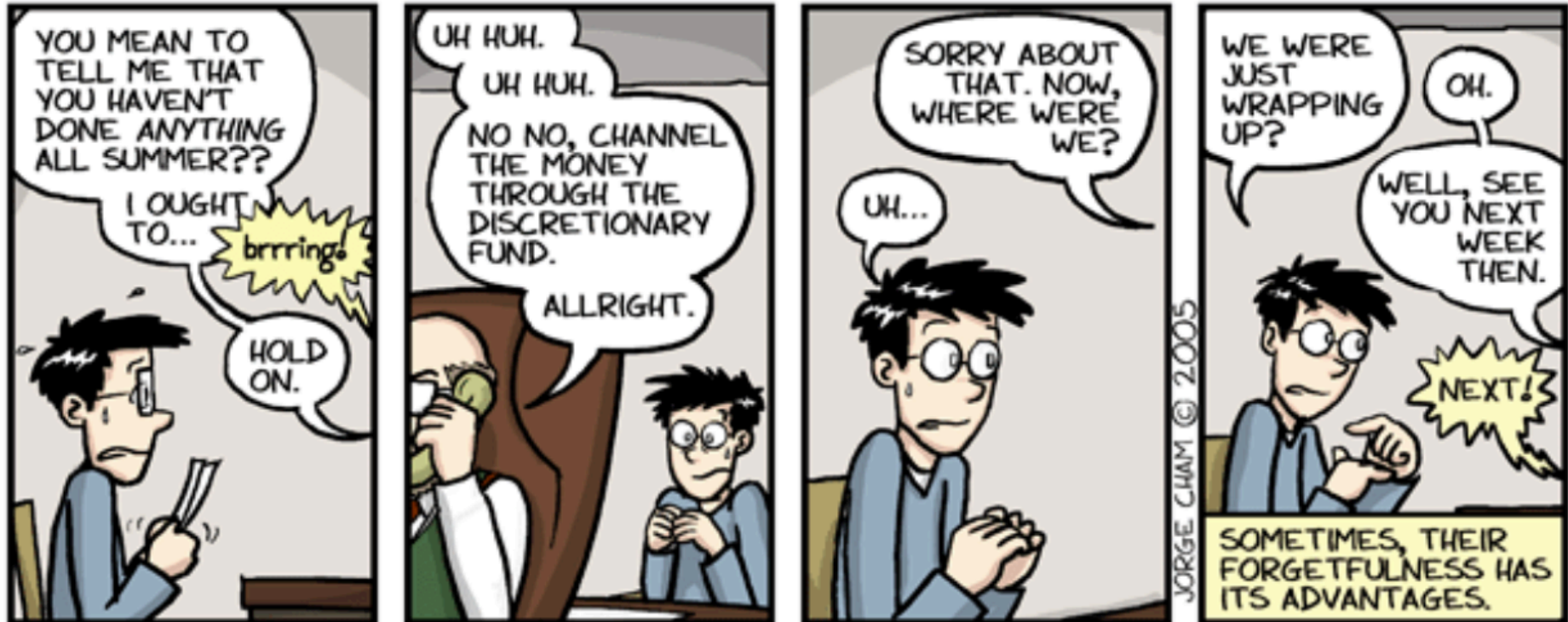
## Abroad

- Wallonie - Bruxelles International ([www.wbi.be](http://www.wbi.be))
- The Belgian American Educational Foundation ([www.baef.be](http://www.baef.be))
- Euraxess ([www.euraxess.be](http://www.euraxess.be))
- Fulbright commission ([www.fulbright.be](http://www.fulbright.be))
- Agence universitaire de la francophonie ([www.auf.org](http://www.auf.org))
- phdportal ([www.phdportal.eu](http://www.phdportal.eu))
- FindAPhD ([www.findaphd.com](http://www.findaphd.com))

## Fun

- PhD comics ([www.phdcomics.com](http://www.phdcomics.com))

# Questions?



[www.phdcomics.com](http://www.phdcomics.com)

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# Testimony

**Dr. Eric WINANDY**



**Dr. Alejandro MARCOS**



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# BACKUP

# Doctoral colleges

## **Architecture, Civil engineering and Geology**

President: Benjamin DEWALS

Vice-President: Serge BOUYERE

## **Art of building and urban planning**

President: Shady ATTIA

Vice-President: Sylvie JANCART

## **Aerospace Engineering and Mechanics**

President: Jean-Philippe PONTHOT

Vice-President: Ludovic NOELS

## **Chemical Engineering**

President: Grégoire LEONARD

Vice-President: Angélique LEONARD

## **Electricity, Electronics and Computer science**

President: Benoît VANDERHEYDEN

Vice-President: Bernard BOIGELOT

# FNRS fellowship

## Duration

2 years, renewable for 2 more years

## Topic

Free to chose with advisor agreement

## Requirements

Very good track record and very good project

## Decision criteria

Application (grades, recommendation, project)

## Deadline

~ Feb. 2020 (start Oct. 2020)



# FRIA fellowship

## Duration

27 months, renewable for 21 more months  
(total of 4 years)

## Topic

Free topic (industrial/agricultural application)  
(letter of support from industry helpful)

## Requirements

- Master in Sciences or Engineering
- Good track record and project

## Decision criteria

- Application (grades, recommendation, project)
- Oral presentation and interview

## Deadline

~ End of Aug. 2020 (start Oct. 2020, but decision  
announced Dec. 2020)

# Teaching assistantship

## Duration

2 years, renewable twice (total of 6 years)

## Topic

Free to chose with advisor agreement

## Requirements

- Good track record
- PhD advisor support

- **2/3 research**
- **1/3 course assistant**

## Decision criteria

Application (grades, recommendation, topic, letter of motivation, needs)

## Deadline

~ End of Jun. 2020 (start Oct. 2020)

# Research project

## Duration

Project dependent

## Topic

Imposed by project (some freedom)

## Requirements

PhD advisor support + project available

## Decision criteria

PhD advisor agreement

## Deadline

None (start depends on project)

# Doctorate in company\*

## Duration

4 years

## Topic

Imposed by company

## Requirements

Be hired by company + project approval

## Decision criteria

Project approval by Walloon region

## Deadline

None