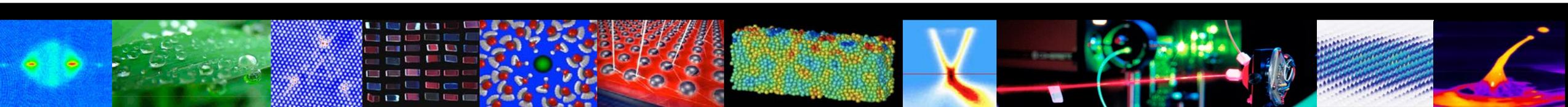


# Amsterdam Physics & Astronomy

Career day 2022



WELCOME



# A Job in Academia

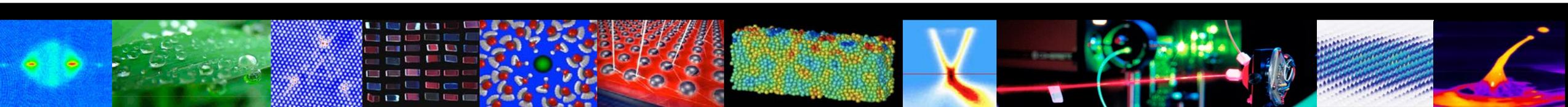
a personal perspective

Erik van Heumen

University of Amsterdam

e.vanheumen@uva.nl, Science Park 904 office C4.258

Courtesy to Nathalie Degenaar for the talk layout



Take out your phone and go to  
[www.wooclap.com/APAC2022](http://www.wooclap.com/APAC2022)

## Log in using another method

- 1 Click here to log in via your browser [Login](#)
- 2 Copy your access key
- 3 Paste your access key here

[Go back](#)

Get



What is your current academic status

- 1 Msc. student 0% 0
- 2 PhD student 0% 0
- 3 Postdoc 0% 0
- 4 Unidentified floating object 0% 0



Click on the projected screen to start the question



# Getting to know you

UNIVERSITEIT VAN AMSTERDAM Go to [www.wooclap.com](http://www.wooclap.com) and use the code **APAC2022**

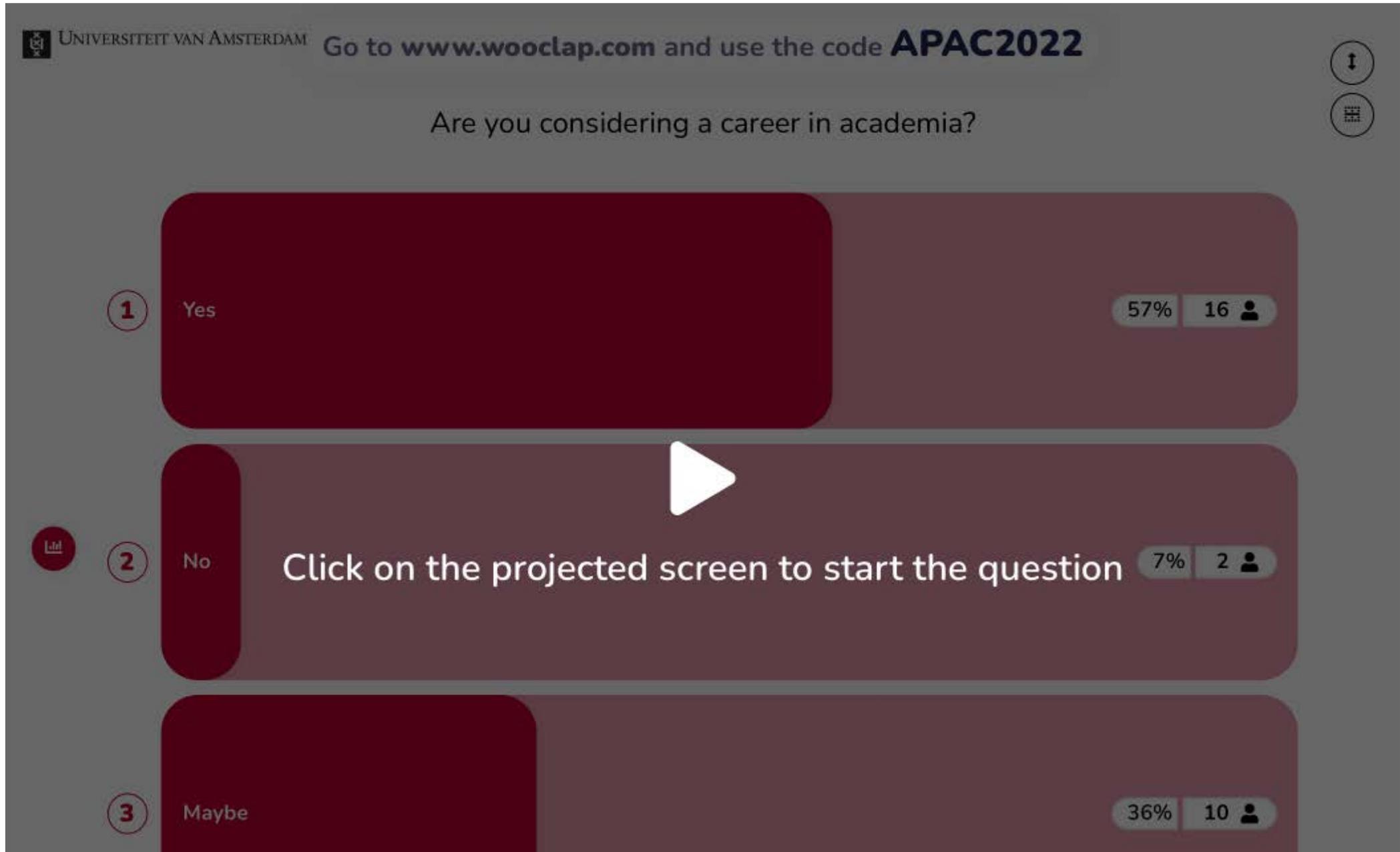
Are you considering a career in academia?

1 Yes 57% 16

2 No 7% 2

3 Maybe 36% 10

Click on the projected screen to start the question



# Getting to know me

Erik van Heumen

44, married, two kids

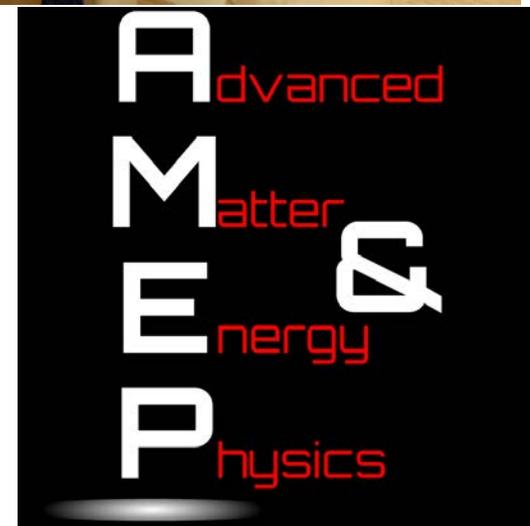
Studied in Leiden,  
PhD in Geneva

My research field:  
spectroscopy of condensed matter

Visiting Scholar @ UCSD 2013

Associate professor @ WZI since Aug 2013

AMEP track coordinator since 29 Aug 2019



# What can I offer?

- Personal experience going from  
MSc NL → PhD CH → PD in NL → USA → faculty job NL
- 19 years of applying for stuff myself  
PhD position, PD fellowships + research grants + faculty jobs
- Several (un)successful grant/fellowship applications  
NL + Europe + USA  
e.g. **Veni, Vidi, Vici, NWO grants, ERC grants, ICAM-I2CAM**
- Being on panels and hiring PhDs + PDs  
e.g. NWO, NSF, program committees

# This talk

What does a permanent job in academia look like?

(my) main duties/activities, balance

Possible routes to land in a permanent academic job

including my own

Pros and cons of pursuing a career in academia

a very honest and personal perspective

Questions welcome! [e.vanheumen@uva.nl](mailto:e.vanheumen@uva.nl) /SP C4.258

What does a job in academia look like?



# What does a job in academia look like?

## I. Research



### Pure research

Experiments, data analysis (simulations, calculations)

Write papers (mostly co-author nowadays)

Talks at conferences, seminars (3-6 x per yr)

Keep up with literature of research field

# What does a job in academia look like?

## I. Research



(Dec 2021)

## II. Group/project management

Facilitate + manage research for your group

Get funding (write proposals)

Set up experiment (observations; write proposals)

Get data

# What does a job in academia look like?

## I. Research



(Dec 2021)

## II. Group/project management



## III. Teaching

Train future generation of academics

Lecture series (2 courses/yr)

BSc/MSc project supervision (2-4/yr)

Program development (can take all your time)

# What does a job in academia look like?

## I. Research



(Dec 2021)

## II. Group/project management



## III. Teaching

## IV. Administration

referee papers, (inter)national committees, panels, guests, organize conferences, reference letters, ...



# What does a job in academia look like?



# What does a job in academia look like?

## I. Research

~35%

~10%



(Dec 2021)

## II. Group/project management

~20%

~15%

## IV. Administration

~15%

~20%



## III. Teaching

~30%

~55%

# What does a job in academia look like?

## I. Research

~35%

~10%

To do:

Prepare & correct exam (5 hours)

Prepare MSc. program evaluation meeting (5 hours)

Prepare APAC talk (4 hours)

Prepare CV workshop (2 hours)

Email APAC related stuff (2 hours)

Prepare A13SMM prop. (3 hours)

Research TaS<sub>2</sub> paper (3 hours)

Write CDW holography paper (5 hours)

Feedback thesis proposal (2 hours)

Lab support (2 hours)

Program eval. meeting (3 hours)

APAC day (8 hours)

small stuff (email, chats etc.)

Total: 48 hours

## III. Teaching

~30%

~55%

Still to do:

Referee Nature comm. paper

Read/correct thesis

Help build cryostat/magnet

Write M2 proposal

Write VO2 paper

Read paper on ML for SCES

## II. Group/project management

~20%

~15%

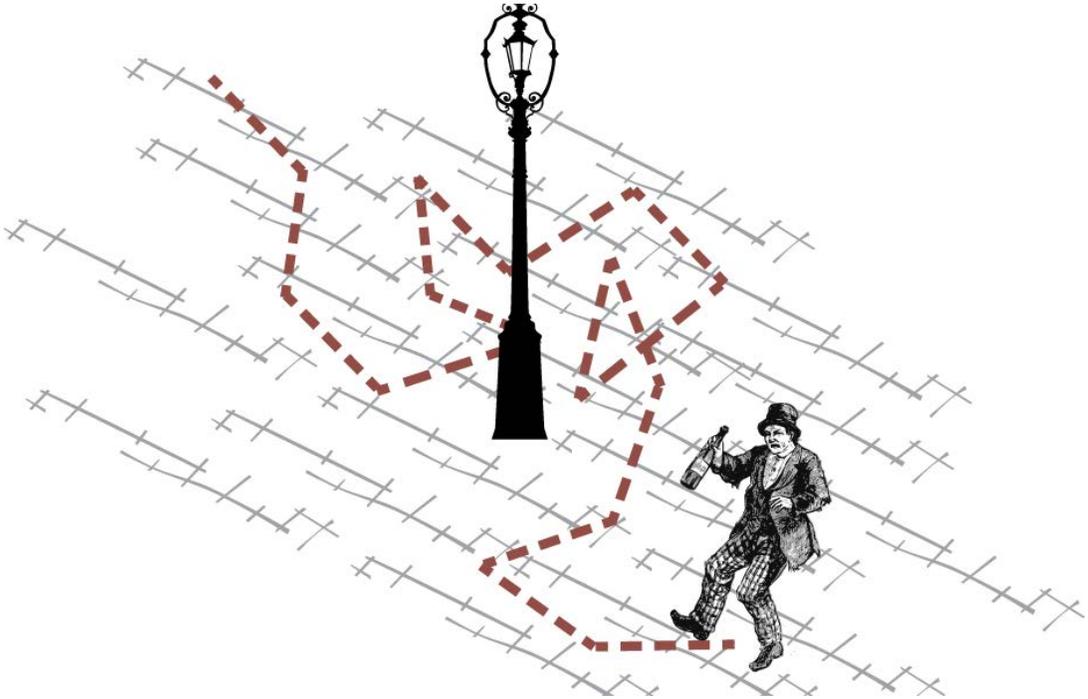
## IV. Administration

~20% ~15%

# Academic activities recap

- A classical academic job comes with teaching  
(but different career paths/opportunities possible)
- Regardless of the exact job/career path, management and admin are part of your job
- Hands-on research (experiment, paper writing), becomes less and less: for me right now ~45% research (incl. management)
- Not a sharp transition: managing/teaching/admin continue to grow along the career path

# How to land a permanent faculty position



# Route to a permanent position

Erik van Heumen:  
PhD Geneva

Postdoc A'dam (1 year)

Veni Laureate (3 yr)

Visiting scholar UCSD  
(self-obtained funding)

UD (assist. prof.)  
Amsterdam (5 years)

UHD (assist. prof.)  
Amsterdam (5 years)

Nathalie Degenaar:  
PhD Amsterdam

Hubble Fellow  
U Mich (3 yr)

Marie Curie Fellow,  
Cambridge U (2 yr)

NWO Vidi Fellow  
U Amsterdam (5 yrs)

UD (assist. prof.)  
Amsterdam

Jasper van Wezel:  
PhD Leiden

J. research fellow  
U Cambridge, UK (3 yr)

Fellowship (2 yr)  
Argonne Nat. lab (US)

Lecturer (2 yr)  
U Bristol (UK)

Visiting scientist (2 yr)  
U Bristol (UK)

U(H)D & Fellow  
Amsterdam &  
Cambridge(UK)

Michael Wise:  
PhD U Virginia

NOAO Postdoc  
Tucson, Az (3 yr)

"AXAF" Postdoc

Senior Research  
Scientist  
(MIT, 11 years)

group lead →  
project scientist  
→ group head  
(ASTRON, NL)

Director, SRON

Coding

Postdoc position

Postdoc fellowship

Tenure(track)

# Route to a permanent position

Erik van Heumen:  
PhD Geneva (5 years)

From theoretical physics  
to experimental physics

Postdoc A'dam (1 year)

'going back home'

IBM award for condensed  
matter physics 2010

Veni Laureate (3 yr)

ICAM travel award 2013

Visiting scholar UCSD  
(self-obtained funding)

NWO grant (2950 k€)

UD (assist. prof.)  
Amsterdam (5 years)

Track coordinator AMEP

UHD (assist. prof.)  
Amsterdam (5 years)

Senior qualification  
education 2022

Jasper van Wezel:  
PhD Leiden (4 years)

ICAM travel award 2010

J. research fellow  
U Cambridge, UK (3 yr)

Various grants (total 4-5  
PhD positions)

Fellowship (2 yr)  
Argonne Nat. lab (US)

Lecturer (2 yr)  
U Bristol (UK)

VIDI Laureate 2014

Visiting scientist (2 yr)  
U Bristol (UK)

NWO grant (500 k€)

Track coordinator Theory

U(H)D & Fellow  
Amsterdam &  
Cambridge(UK)

Senior qualification  
education 2021

Coding

Postdoc position

Postdoc fellowship

Tenure(track)

# Career path take-away

Many ways to be a great scientist that can lead to fulfilling career

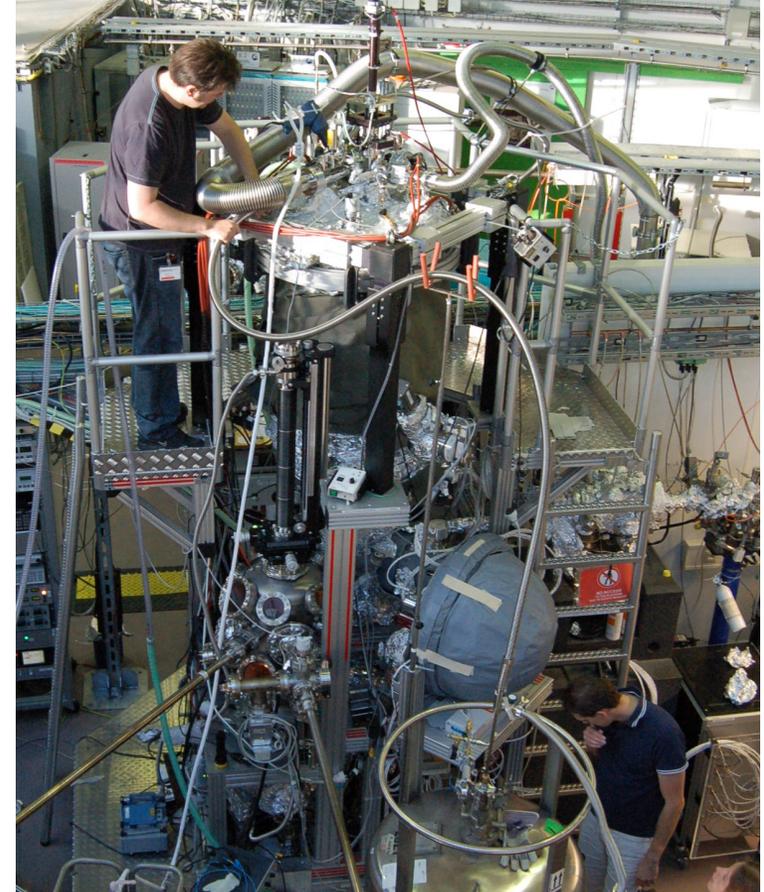
- Cutting-edge observations/experiments
- Theoretical discoveries (individual or large/collaborative)
- Building cool instruments/infrastructure

→ Do not compare yourself with others in terms of talents or CV find what you are good at and focus on improving/exploiting that

Different paths to a permanent position in research/academia

- Many options beyond classical university professor e.g. observatories, data science centres, research companies, research centres

→ Does the classical job fit you (teaching, committee work, etc)?  
Aim for the type of position that fits you



# Pro's & Cons of Academia

## ACADEMIA

**PRO**

YOU CAN WORK WHENEVER YOU WANT! EVERY DAY IS A SATURDAY!

A cartoon illustration of a person with black hair and glasses, wearing a blue long-sleeved shirt, sitting up in bed. Their arms are raised in the air, and they have a wide, happy smile. The bed has a white pillow and a brown blanket. The background is a plain light yellow color.

**CON**

YOU WORK ON SATURDAYS.

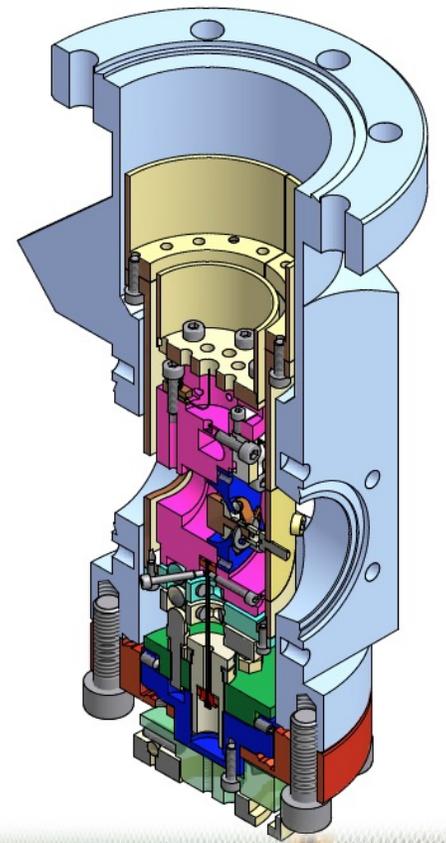
A cartoon illustration of the same person from the previous panel, now looking extremely stressed. They are sitting at a desk covered with stacks of papers and books. They are looking at a laptop with a frustrated expression, and their hair is spiky and messy. The background is a plain light yellow color.

JORGE CHAM © 2017

# Pro's of Academia

Doing research is just awesome, exciting, fun!

I build my own equipment and publish research with it



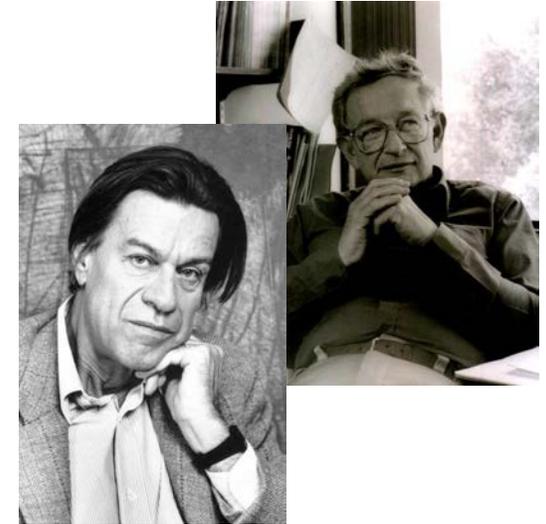
# Pro's of Academia

Doing research is just awesome, exciting, fun!

I build my own equipment and publish research with it

Get to see the world!

live + work abroad, visit interesting places, meet people



Europe (14+ countries so far)

US & Canada (New York, SD, LA, Houston, Boston, Vancouver, Waterloo...)

China (Qingdao, Shanghai, Beijing)& Hong Kong

“Wanted list”: Japan, India, Argentina, Greece, South Africa, Ethiopia

# Pro's & Cons of Academia



# Pro's of Academia

Doing research is just awesome, exciting, fun!

I build my own equipment and publish research with it

Get to see the world!

live + work abroad, visit interesting places, meet people

Very independent

Decide what you do and when (research)



# Pro's of Academia

Doing research is just awesome, exciting, fun!

I build my own equipment and publish research with it

Get to see the world!

live + work abroad, visit interesting places, meet people

Very independent

Decide what you do and when (research)

Very flexible

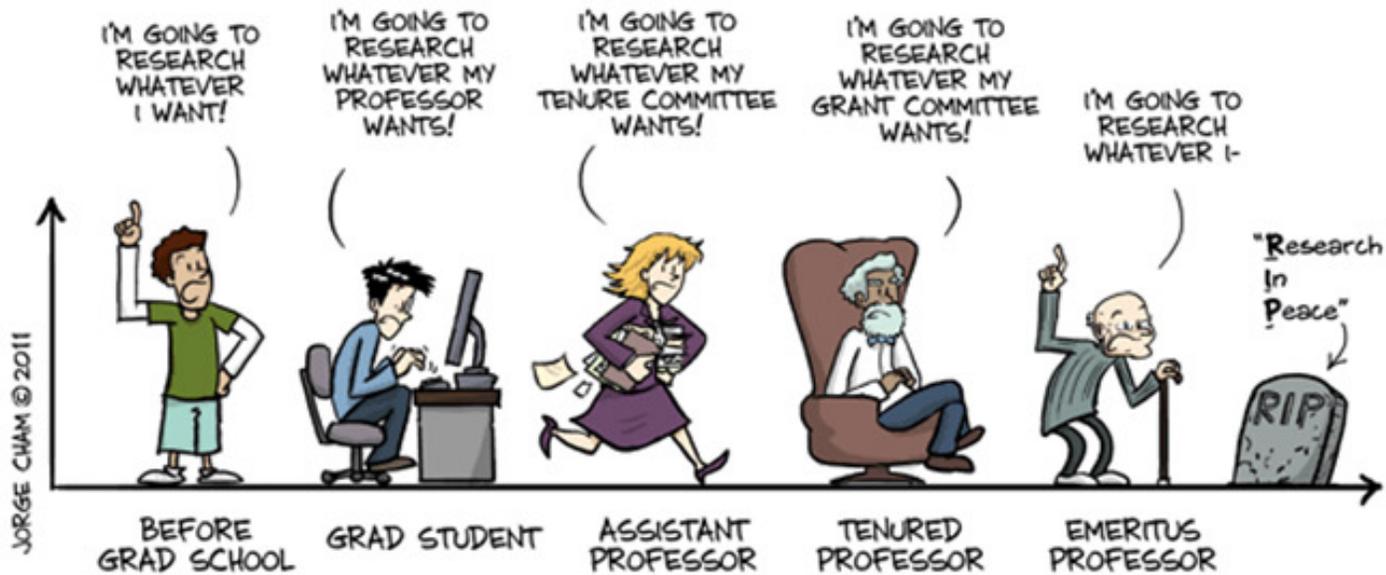
not a 9-5 job



# Con's of Academia

Doing research is just awesome, exciting, fun! → very competitive!  
continuous quest of getting grants, data, students etc

## THE EVOLUTION OF INTELLECTUAL FREEDOM



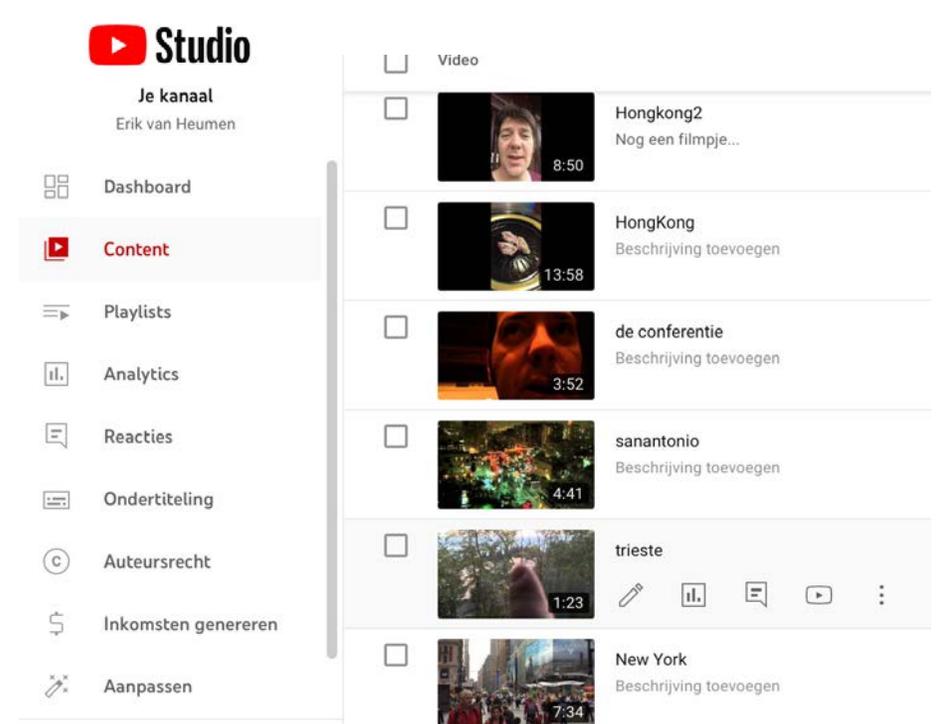
# Pro's & Cons of Academia



# Con's of Academia

Doing research is just awesome, exciting, fun! → **very competitive!**  
continuous quest of getting grants, data, students etc

Get to see the world! → **move country every few years (few times)**  
can be hard for a partner (job/visa) or with a family



# Con's of Academia

Doing research is just awesome, exciting, fun! → **very competitive!**  
continuous quest of getting grants, data, students etc

Get to see the world! → **move country every few years (few times)**  
live + work abroad, visit interesting places, meet people

Very flexible → **job never stops (if you don't)**  
work/life boundaries, work evening/weekend sometimes/often



## Wanneer

- Sluitingsdatum voor vooraanmeldingen van de ronde 2022 is **dinsdag 12 april 2022, 14:00:00** uur (CEST).
- Sluitingsdatum voor het indienen van uitgewerkte aanvragen is **dinsdag 20 september 2022, 14.00:00** uur (CEST).



# Con's of Academia

Doing research is just awesome, exciting, fun! → very competitive!  
continuous quest of getting grants, data, students etc

Get to see the world! → move country every few years (few times)  
live + work abroad, visit interesting places, meet people

Very flexible → job never stops (if you don't)  
work/life boundaries, work evening/weekend sometimes/often

No job security (before ~mid/late-30)  
few jobs, getting best grants is no guarantee

# Pro's & Con's take-away

- World mobility is a requirement + you can't count on getting a permanent job in your home country  
Many more opportunities if you can be flexible
- Don't rule out too many options too soon  
Moving countries is an incredible life experience

Pros	Cons
Get to do science	Competitive, job insecurity
Get to see the world	Difficult with partner/family
Very flexible	Work/life boundaries
Independent	Not a part-time job

# Wrap Up

- Many ways in which to be a good academic  
Different routes to permanent jobs: what suits you?
- A job in academia is exciting, fun, awesome  
World mobility requires you to be a bit flexible and adventurous, but is a very valuable life experience

Most important advice if you continue:

Make sure you like the direction you are working in and don't be afraid to change it.

Questions welcome! [e.vanheumen@uva.nl](mailto:e.vanheumen@uva.nl) /SP C4.258