

Nikhef

REFLECTIONS

APRIL 9, 2020





CORONA RELATED

4TH WEEK IN CORONA MEASURES

Intelligent lock down - follow the advices/rules

- We rely on your own responsibility during this crisis
 - Social distance of at least 1.5 m
 - Further internalize this 'very common sense' rule at all circumstances!

Communication with your university and Nikhef/NWO-i

- Nikhef corona crisis team meets every day to judge the impact for Nikhef
 - Vanessa, Arjen, Pieter, Rens, Eveline, Bram, SB
 - <https://intranet.nikhef.nl/coronavirus-updates/>

Read these messages carefully and take them serious!

LIMITED OPEN - NIKHEF/NWO

Nikhef is still open, but restricted to a minimum

- Adequate daily staffing of BHV - i.e. in-house emergency response
 - Functioning reception, secretariat, helpdesk, receipt of goods

We oblige everybody to work at home if possible

- Isolation is the best way to brake the spread - *keep 1.5m distance!*
 - If you cannot work effectively at home, consider it if you do not feel safe @Nikhef
 - Mark non-productive days due to corona-measures as 'Force majeure' days

No office work or meetings at Nikhef

Situation lasts until at least April 28th

NIKHEF MINIMALLY OPEN

Few activities ongoing at Nikhef

- Cleaning activities have intensified
 - cleaning includes e.g. switches (light, elevator)





LIMITED OPEN - NIKHEF/NWO

This pandemic is extraordinary for all of us

- It is completely understandable if you are out of balance
 - Working at home comes with in-efficiencies
 - Some colleagues experience stress

Corona leads to an efficiency drop in the production and work @Nikhef

Still: this period is not a free holiday!

- So please - take your own responsibility on working/spare hours balance
 - Take time & effort to figure out how to remain productive for Nikhef
 - Be creative - think out-of-the-box - look for support!

COVID-19 : WHAT TO DO?

Communicate?

Communicate...

Communicate!

Keep connected to your work and Nikhef

NWO MEASURES

Uitloop van onderzoekstrajecten:
onderzoeksinstellingen werken aan
oplossingen

NWO funding instruments

- Guidelines for postponing primary process - funds deadlines and reporting dates delayed
<https://www.nwo.nl/en/common/about-nwo/corona-virus/corona-virus>
- Special fund available for COVID-19 research

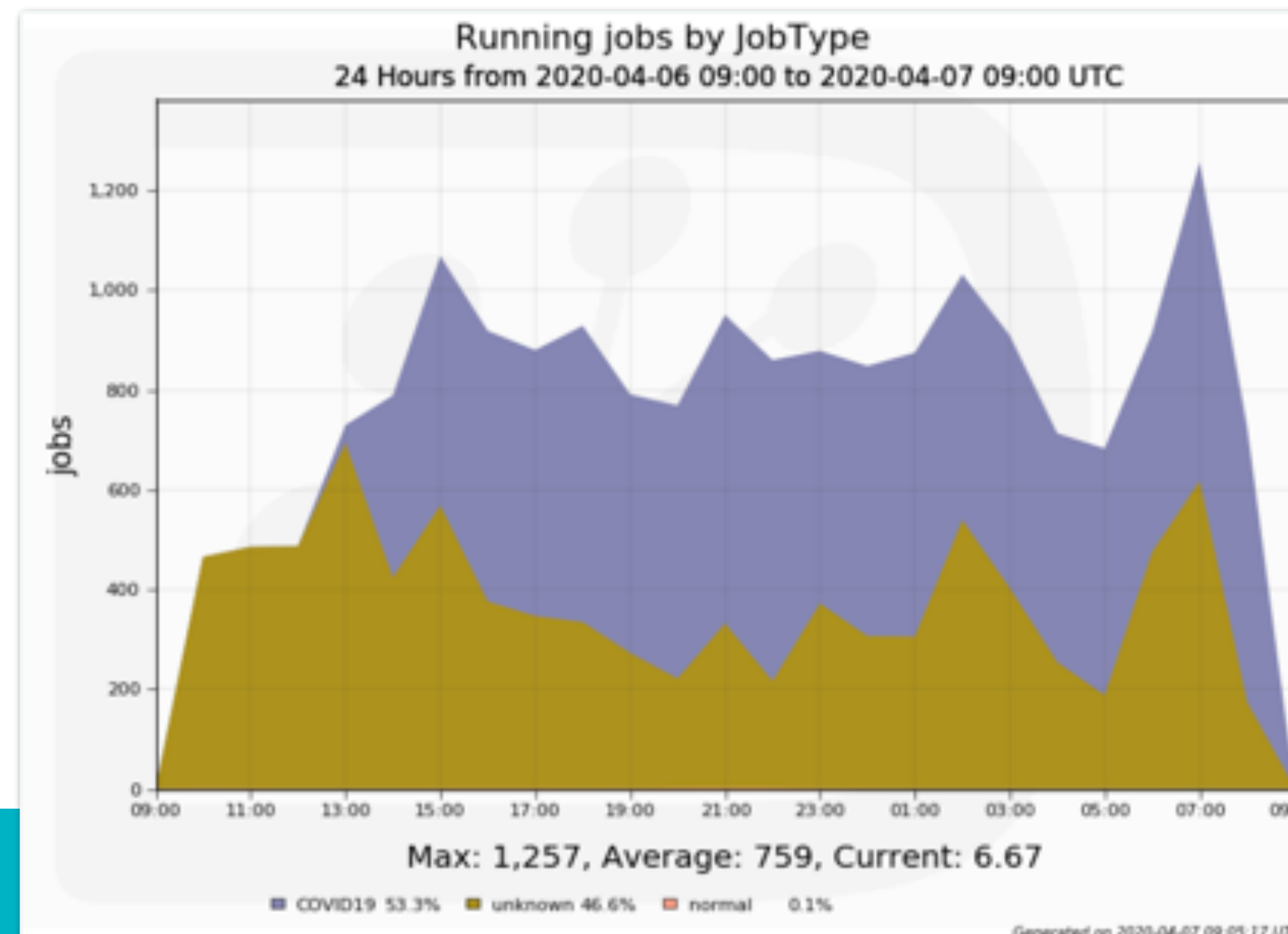
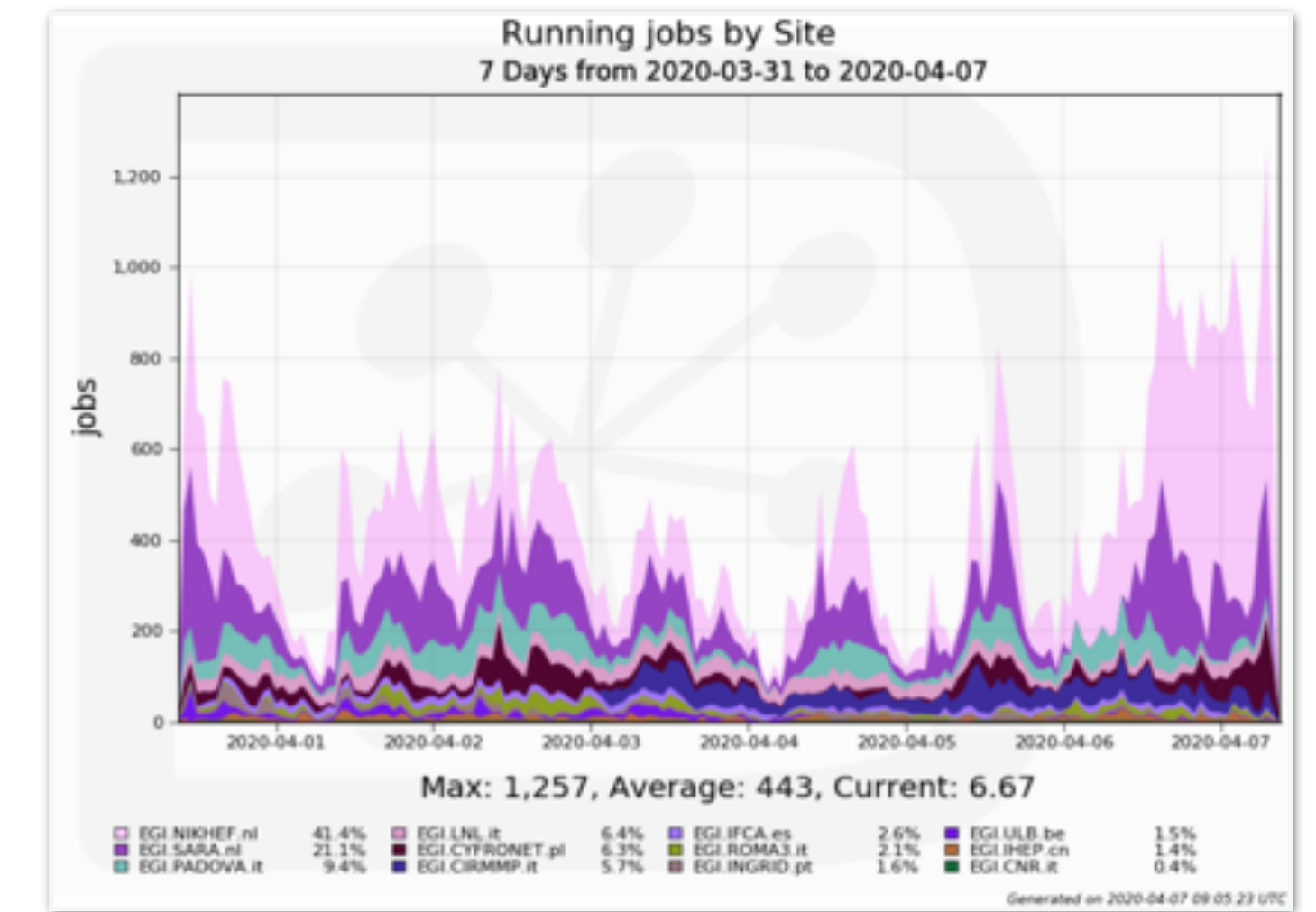
Impact COVID-19 on institutes is recognized by NWO

- We reported an estimated efficiency loss between 30-50% for first 3 months
 - <https://www.nwo.nl/actueel/nieuws/2020/04/uitloop-van-onderzoekstrajecten-onderzoeksinstellingen-werken-aan-oplossingen.html>
- Together with the Promovendi Netwerk Nederland and PostDocNL, NWO is working on solutions to the bottlenecks experienced by these (young) researchers.

NIKHEF AND COVID-19?

Nikhef GRID infrastructure is used by WeNMR

- Virtual Research Community on structural biology
 - modeling COVID-19 related protein-protein interactions
- Capacity used at European GRID Infrastructure
 - 41% at Nikhef
 - 21% at SARA



DONATION FROM NIKHEF

Donate our (old) climate chamber

- Potential use for sterilization of hospital materials
- face masks etc

PROJECT OPEN AIR NL

Project Open Air is een netwerk van Nederlandse engineers en productiebedrijven dat haar kennis en productiecapaciteit beschikbaar stelt voor de medische sector. Het doel: open source of aanvullende productie van kritische apparatuur en onderdelen in de behandeling van Covid-19 patiënten. Samen kunnen we snel en op grote schaal produceren wat nodig is.

Mohammed van de Kraats



CERN ORGANIZED ACTIVITIES



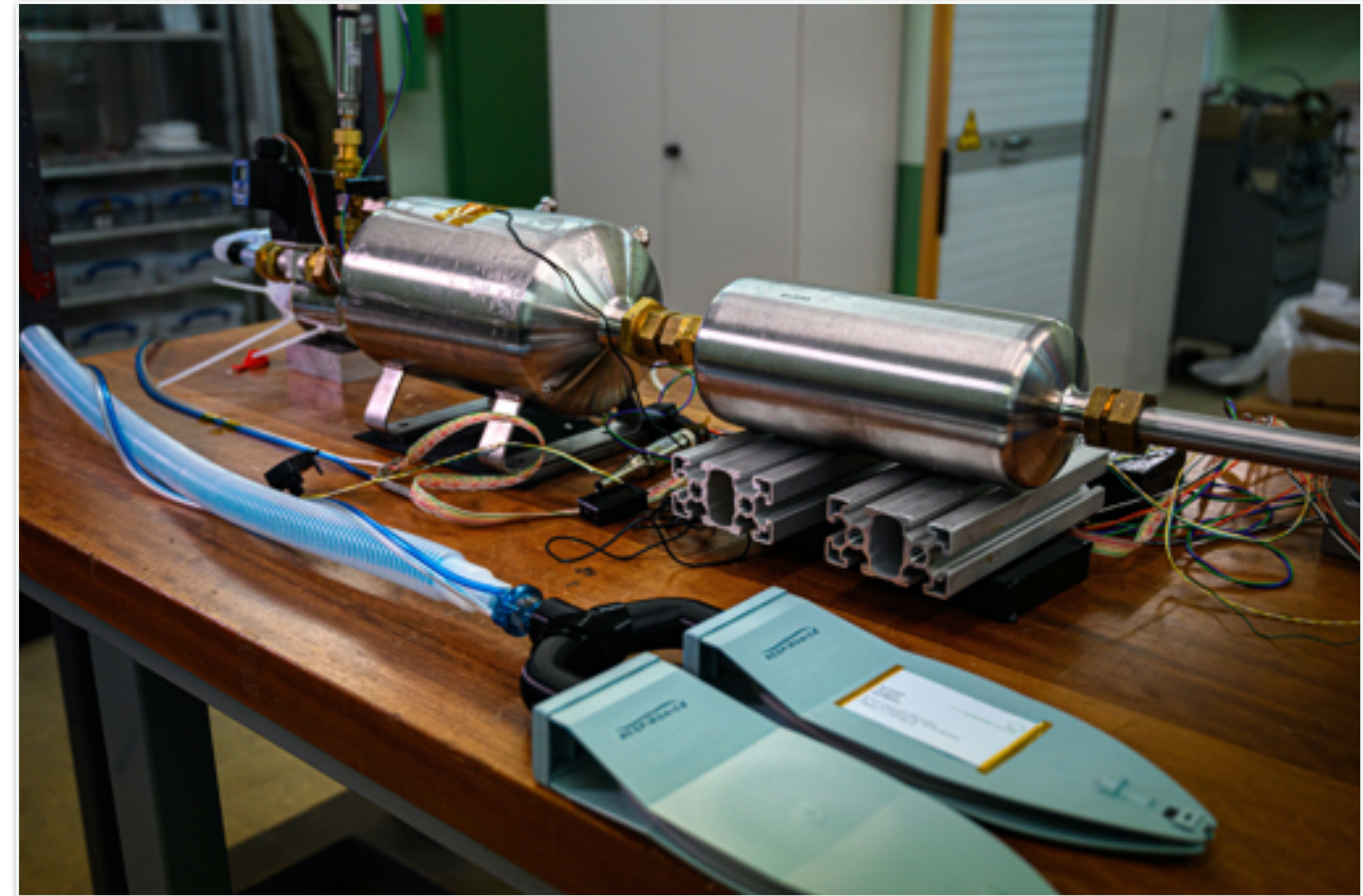
Cern against COVID-19

- Website started - new initiatives to help society:
against-covid-19.web.cern.ch
- Medical applications
- Computing and data analysis
- Help to society

Marco van Leeuwen

'LHCb initiative' on HEV

- stripped-down 'High Energy Ventilator'
- innovation: simple & cheap components





SCIENCE

CERN AND LHC

CERN is open in virtual mode.

- Many scientists and collaborators are teleworking.
 - On-site activities limited
- LHC Delay of the Long-Shutdown not yet clear
 - LHC runs for 10 years!



European Strategy fo Particle Physics - update

- Strategy for post-LHC era
- Announcement and publication delayed until further notice
 - Time is not right to discuss this with member states



LHCB ACTIVITIES

SciFi project

- Construction of the detector is on hold

The Velo module

- Production is on hold
- RF-box installation is postponed

The High-Level Trigger project

- Continue full steam ahead. Lots of activity.
- Nikhef leading contributor: Daniel Campora, Roel Aaij and Gerhard Raven.



PCB master board by our ET
are finalised

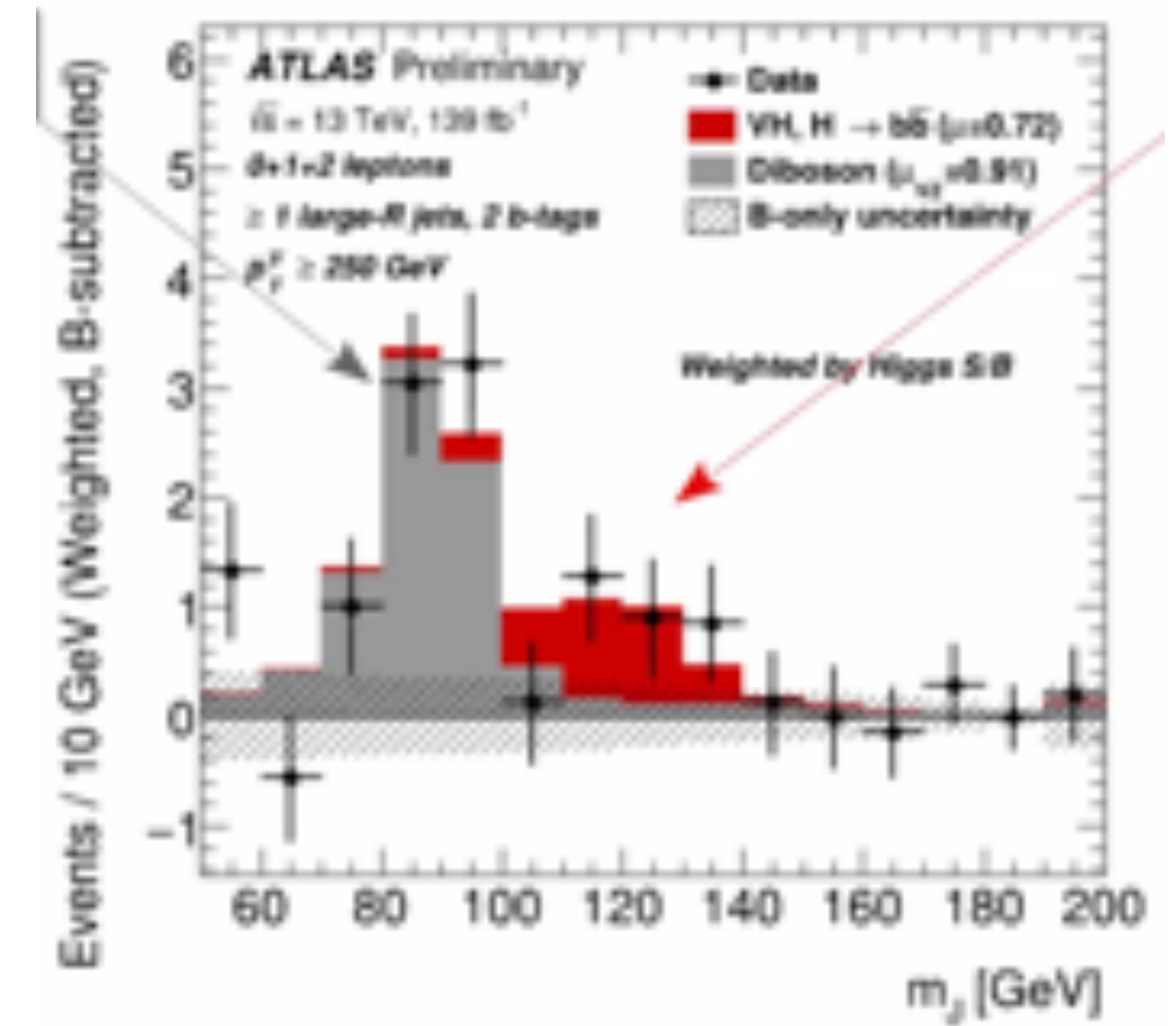


LHCb cavern - SciFi assembly- *empty*

HIGGS AT ATLAS

$$\mu_{VH} = 0.72^{+0.39}_{-0.36} = 0.72^{+0.29}_{-0.28}(\text{stat.})^{+0.26}_{-0.22}(\text{syst.})$$

Obs. (exp.) significance: 2.1(2.7) σ



Colloquium @CERN by Hanna Arnold

- Higgs studies with LHC Run-2 data
- Watch the paper clip by Brian Moser!
 - VID I Tristan du Pree: 'Higgs from Z to A'



Hanna Arnold
ATLAS Hbb
convener



Brian Moser

AUGER

Auger observatory is closed

- Travel to Argentina is impossible
 - Only security is available

Data taking continues partly

- FD stopped data taking
- SD (tanks) and SSD (scintillator upgrade) continue
- Installation of the SSD detectors delayed - 738/1500 installed

Data analysis ongoing

- First results elektron-muon separation - to understand the particle ID
 - Lot of activity - Mart Pothast, Charles Timmermans, Sijbrand de Jong



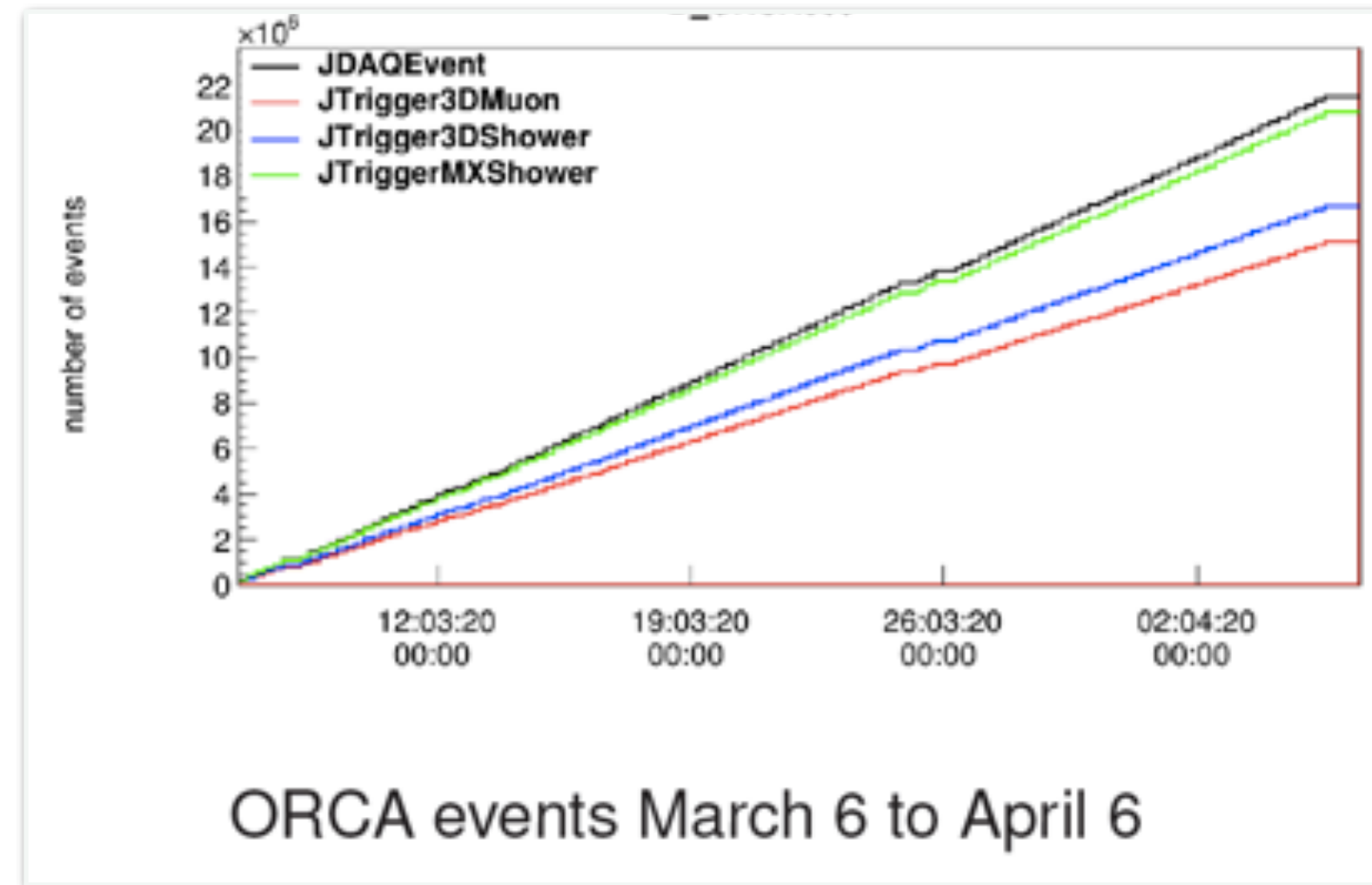
KM3NET

ORCA lines taking data

- Quality of data excellent
- No emergencies

Analysis ongoing

- Searching for supernova events
- Multi-messenger - alert system



KM3net PMT Base Prints (ET)

14000 to Nikhef, produced
14000 to Italy, almost done
2400 to France, produced
1500 to Nikhef, produced
12500 to Nikhef, ongoing
16000 to Italy, preparation phase

In total 60400 pieces



XENON-NT

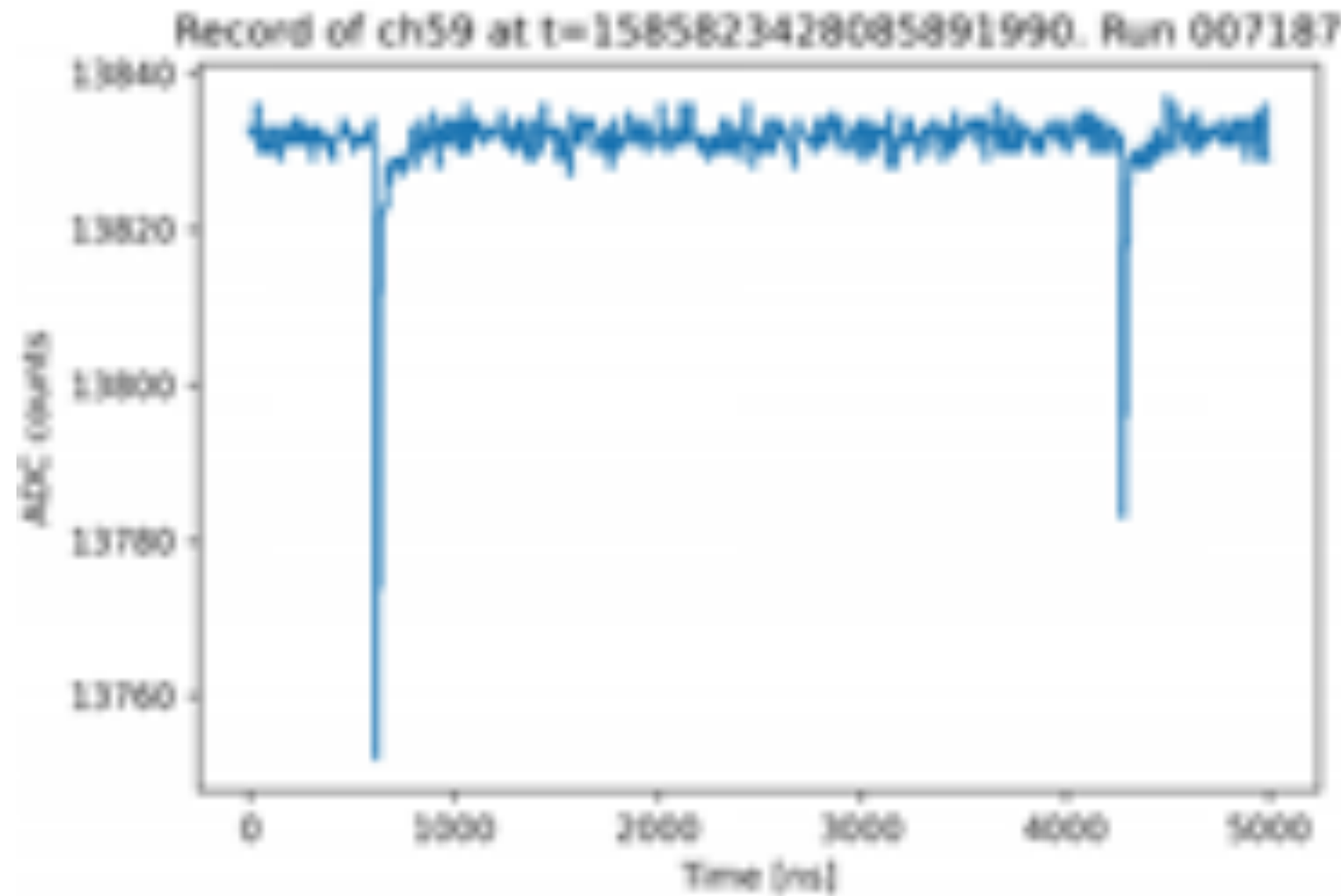


LNGS is closed, need special director's permission to go in

- Small, core team goes underground when necessary

XENONnT TPC safely underground and in vacuum

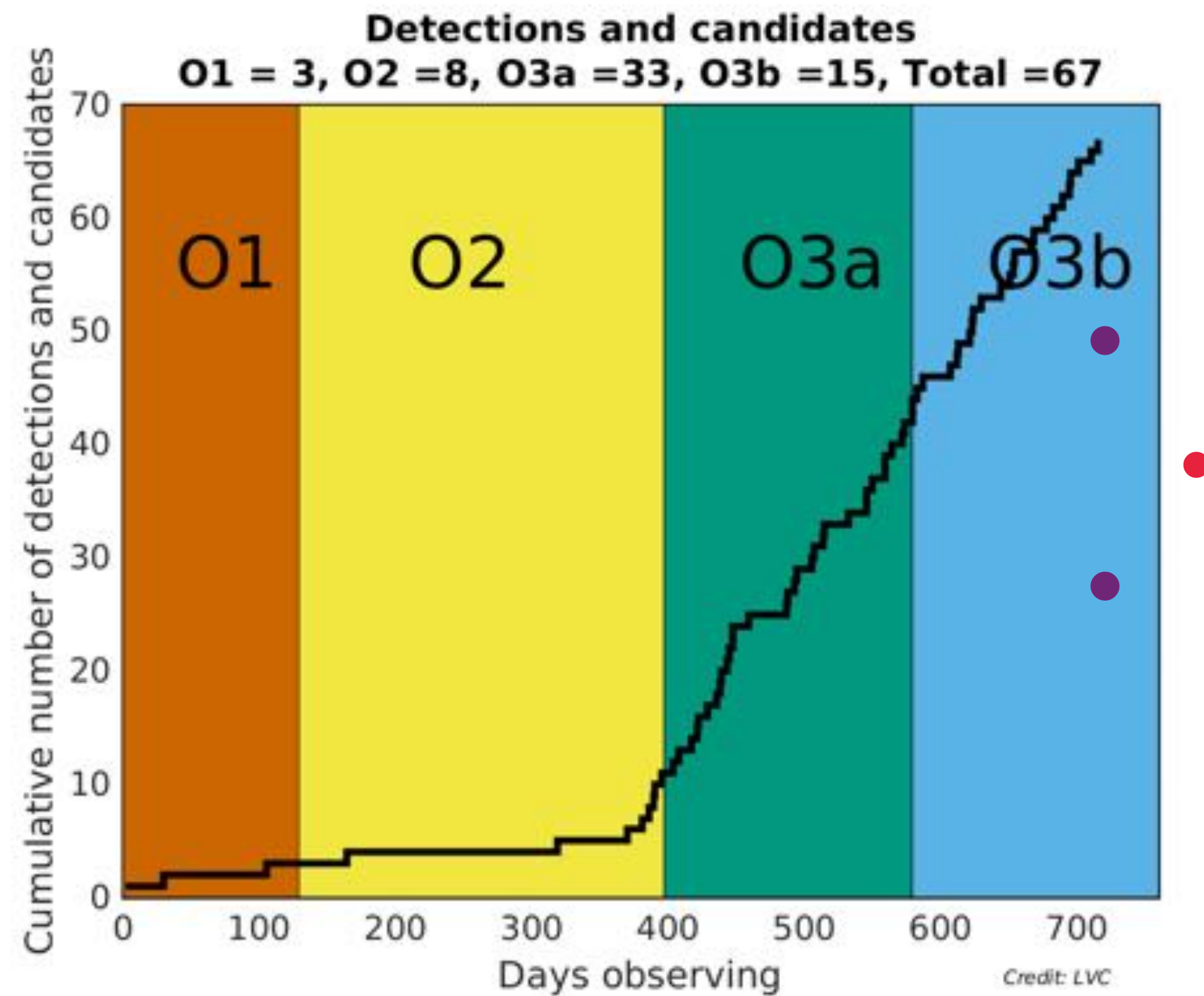
- PMT & DAQ commissioning started - remotely
- Radon emanation measurements (time!)



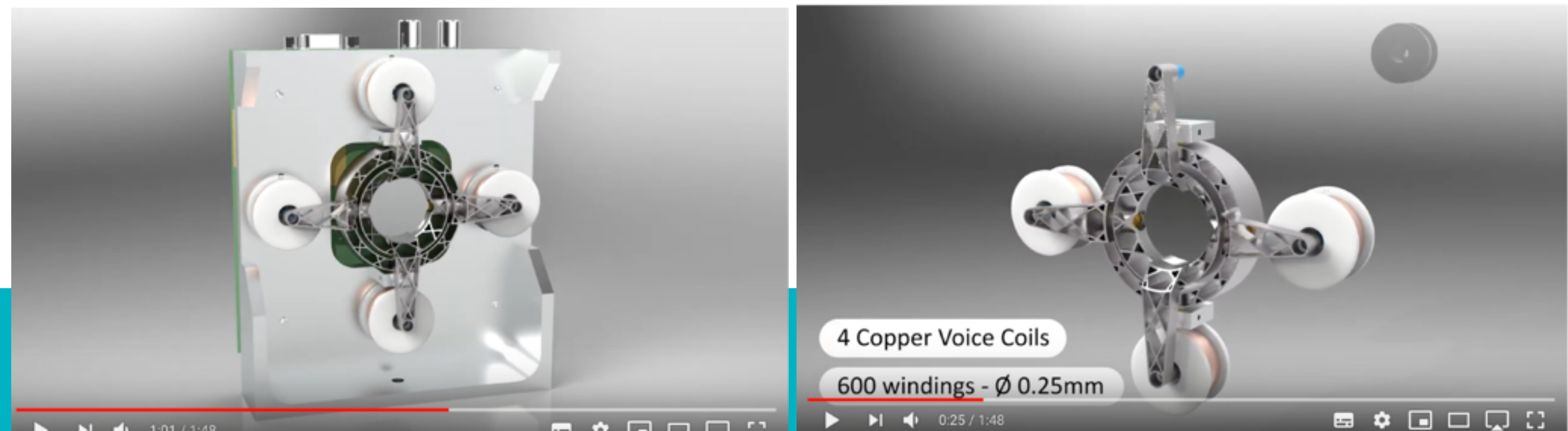
VIRGO STATUS

The science run of Virgo-LIGO was stopped preliminary

- O3 science run was very successful - much more sensitive than O2



Galvano Gimbaled Mirror
designed for Virgo experiment
delivered by Nikhef
<https://youtu.be/mPrhaDXAT9Y>



ET DEVELOPMENTS

ET-pathfinder

- Design review is approved
 - Very constructive advisory board
- Lot of progress on-site!
 - The old floor and wall of the hall has been removed

ET-NL

- ESFRI application delayed until September
- Letter of Intent signed by 23 partners



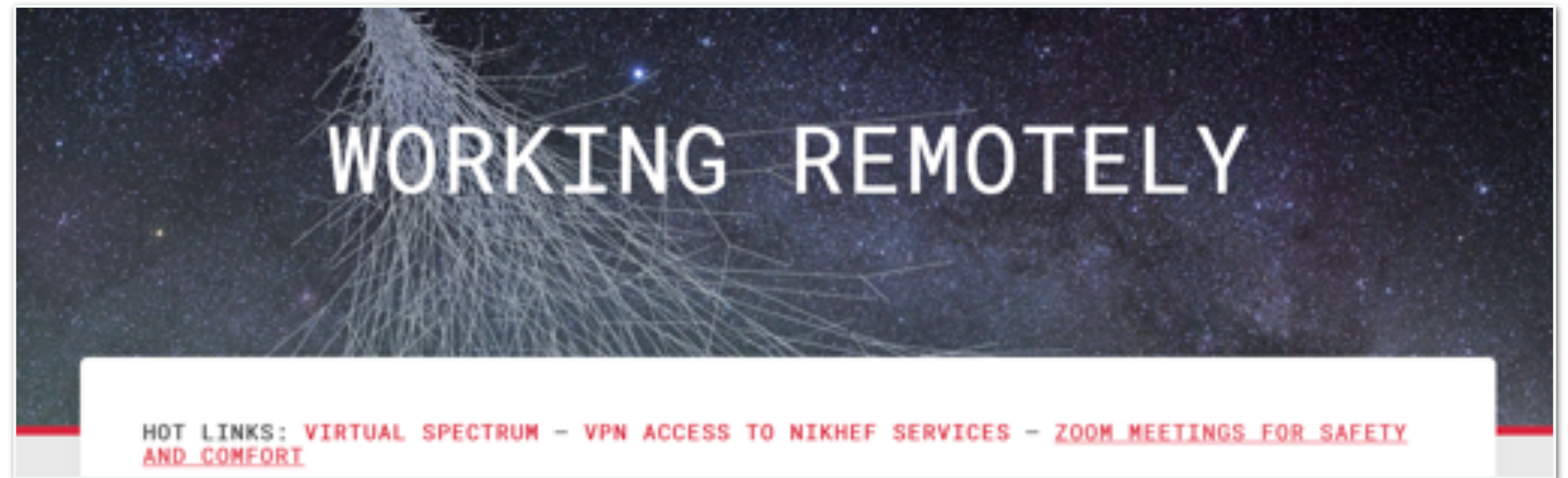
MECHANICAL TECHNOLOGY

Engineer work from home on CAD system

- Support from Siemens and Nikhef helpdesk
 - Installation via Remote Desktop Login and fluent use of remote design software



ICT AND HELPDESK



Info at

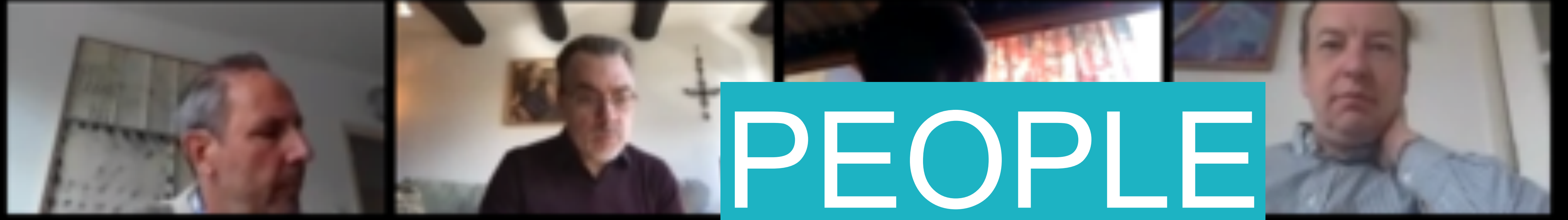
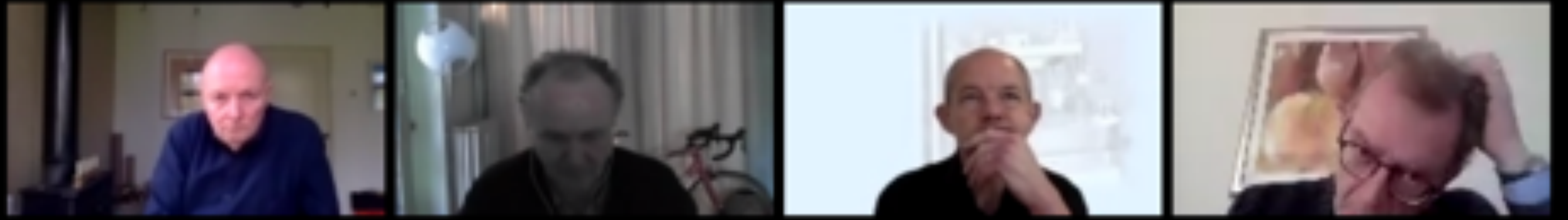
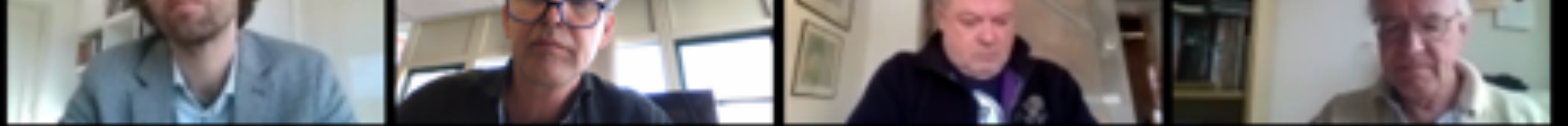
- <https://intranet.nikhef.nl/working-remotely/>

Helpdesk open every day between 14:30 - 15:00 hrs

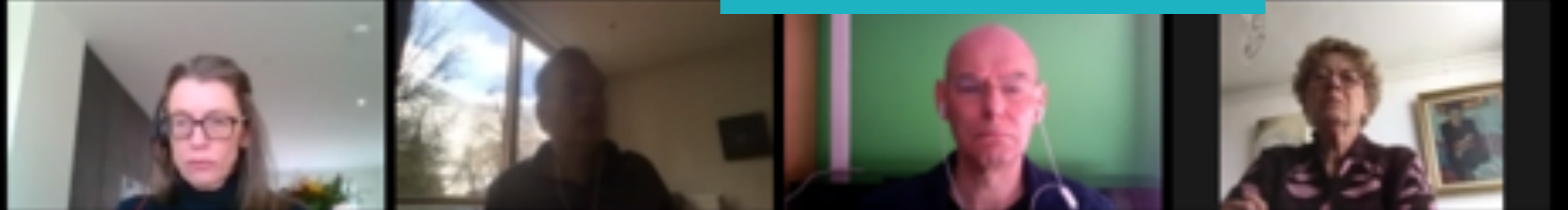
- Tristan Suerink or others will be at Nikhef to help
- Computer monitors are available to work home

Zoom common room

- <https://intranet.nikhef.nl/working-remotely/spectrum/>



PEOPLE

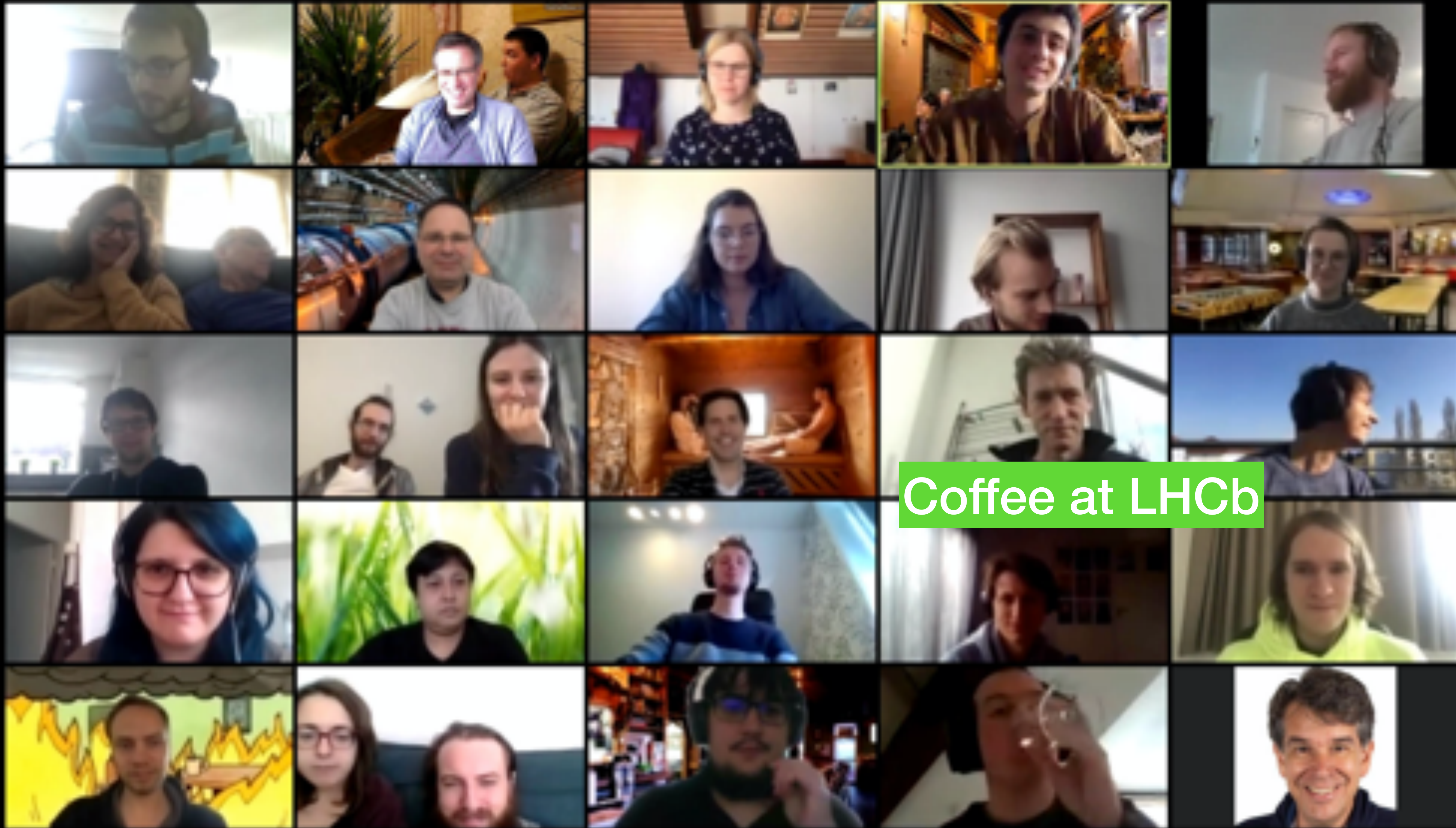


VIRTUAL COFFEE MOMENTS

Thanks for these excellent initiatives

- Coffee at ET





Coffee at LHCb

LHCB & ATLAS PERSONS



Patrick Koppenburg
stepped down as editorial board chair
of LHCb - huge taks!

Reflections, April 9th, 2020



Niels Tuning
Elected as Physics Coordinator of LHCb



Pamela Ferrari
Publication chair of ATLAS - huge task!



BEYOND SCIENCE

Nikhef Ondernemingsraad Works Council



Please think with us & share your opinion!

CORONA AND WORKING AT HOME

The NOR is still there for you; so get in touch!



Health and Safety regulations DO apply when working from home:

- You can get support to arrange a decent home set-up
- IT equipment can be borrowed from your office or the CT: helpdesk@nikhef.nl
- For other kit, get in touch with facilities: facilities@nikhef.nl

Reasons that make working at home at times impossible (noise, heat,..)

- Get in touch with your supervisor or group leader and discuss what options there are to circumvent this.





Instituten

Centrale Ondernemingsraad Centralized Works Council

Rasa
Muller



Peter
Kluit



Please share your opinion!

NEGOTIATIONS WITH NWO

New CAO - collective labour agreement

- Agreement settled - at least for one year
 - Salary & contracts conditions

New implementation arrangements (UVR)

- Valid at least until 2023
 - Commuting expenses
 - Public transport usage, ...



NWO-i will communicate these issues and changes on short notice

- Reach out to all NWO-i members individually
 - Wait with your questions to Pieter van Braam van Vloten after this communication

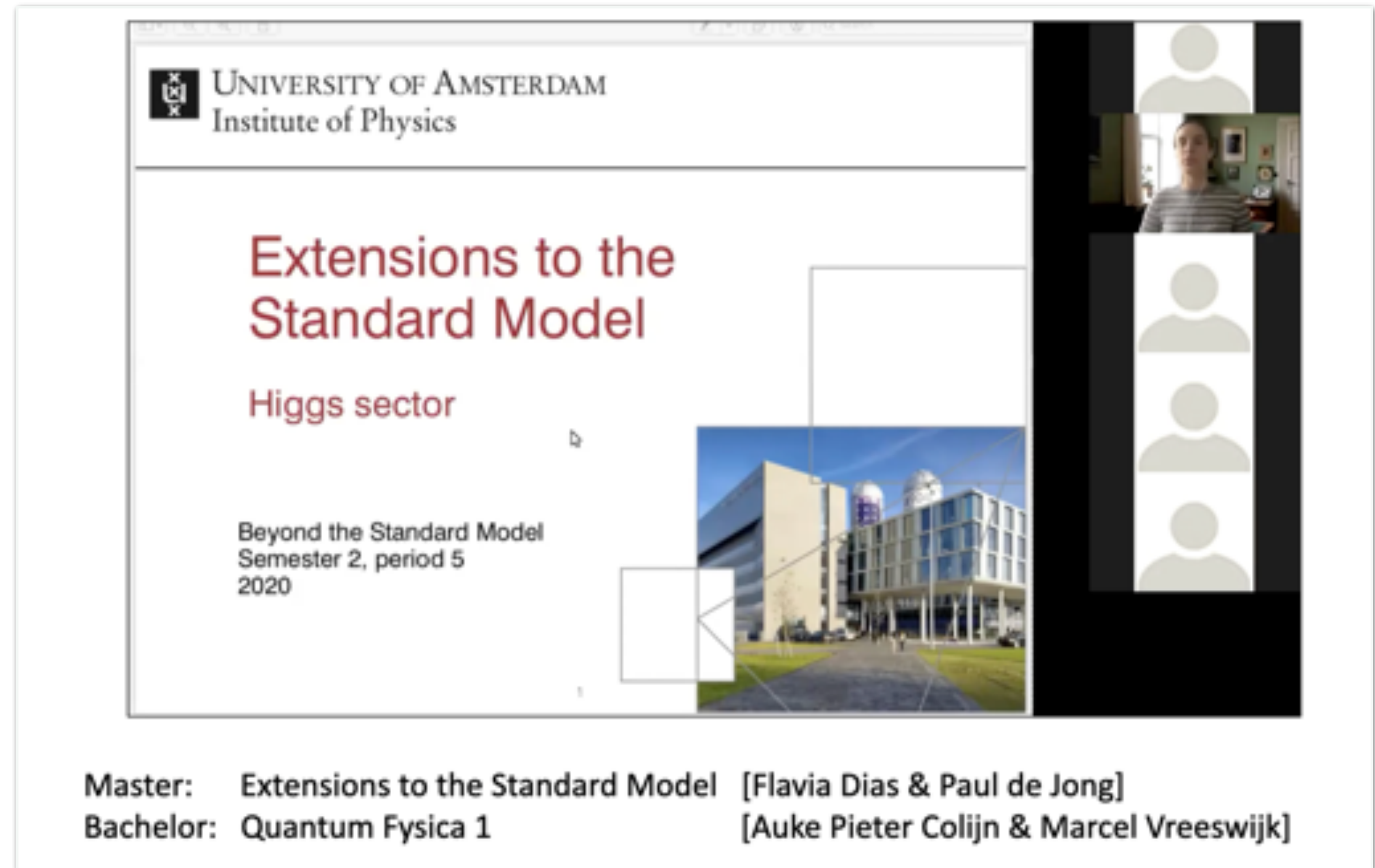
TEACHING - AN ON-LINE CHALLENGE

On-line and virtual teaching
at all partner universities

- Creative solutions to reach the students
 - **Very good examples**

OSAF research school

- Close contact with PhD council
- Topical Lecture postponed
 - **Aim to go virtual in June**



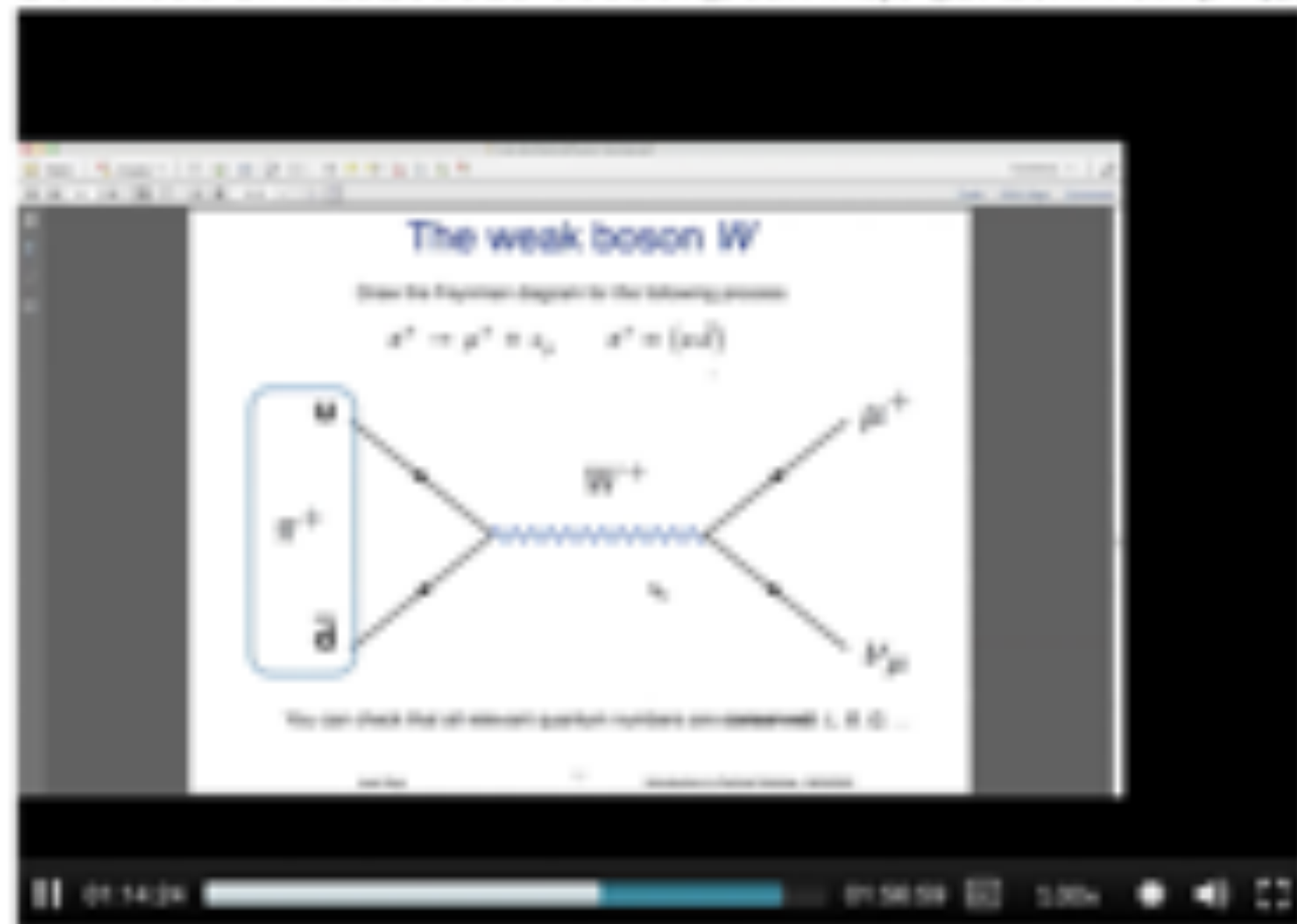
UNIVERSITY OF AMSTERDAM
Institute of Physics

Extensions to the Standard Model

Higgs sector

Beyond the Standard Model
Semester 2, period 5
2020

Master: Extensions to the Standard Model [Flavia Dias & Paul de Jong]
Bachelor: Quantum Fysica 1 [Auke Pieter Colijn & Marcel Vreeswijk]



<https://wetenschappelijk.mprog.nl/>

(I) software
Angepasde tools

(II) Numerical technieken
Numerical methods

(III) simulations
Monte Carlo, Machine Learning, etc.

(IV) data analysis
Data science, Big data, etc.

Python installeren
Python voor beginners

Centrale website cursus
Cursusinformatie

Utrecht University
Department van Astronomie

- Introductie programmeren voor fysici
- Geen programmerenverbaasheid

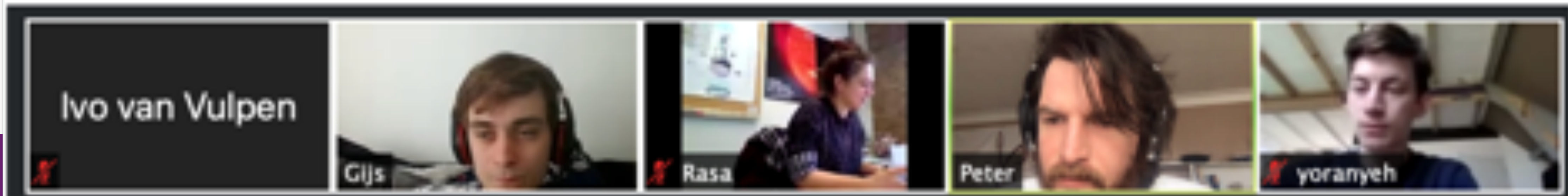
python™

Guest lecture Juan Rojo

2nd year course 'Introduction to (astro-)particle physics'

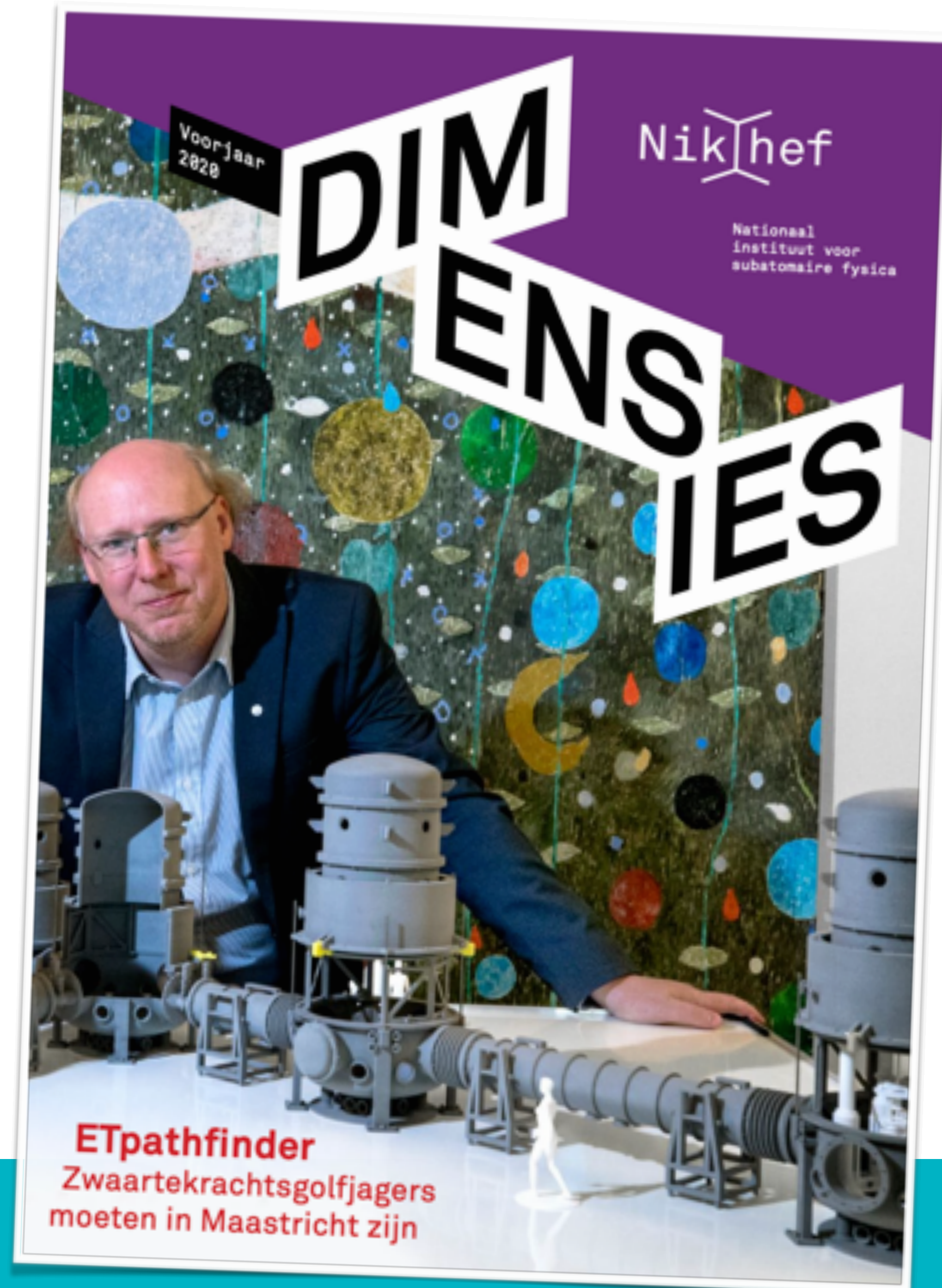


Tutorial sessions on Zoom thanks to Rasa, Gijs, Peter and Yoran



DIMENSIES

New edition #3 available for Easter reading!



INHOUD

- 2 Renovatie**
Nikhef-gebouw in een nieuw jasje
- 3 Stan Bentvelsen**
Directeur opent deuren voor talent
- 4 ETpathfinder**
Gezocht: het beste gereedschap voor zwaartekrachtsgolven
- 10 Pamela Ferrari**
Toponderzoeker over haar passie voor het higgsdeeltje
- 12 ALICE-detector**
Nog dichterbij de oerknal
- 14 KM3NeT**
Bollen afzinken in de Middellandse Zee
- 16 Ambities**
Hoe jonge onderzoekers de deeltjesfysica zien
- 20 Medipix**
Deeltjessensor veroverd de wereld
- 23 De droom van Suzan Bazeşmez**
over donkere materie

VIRTUAL LUNCH CONCERTS

Bouke Jisse Jung (last week)

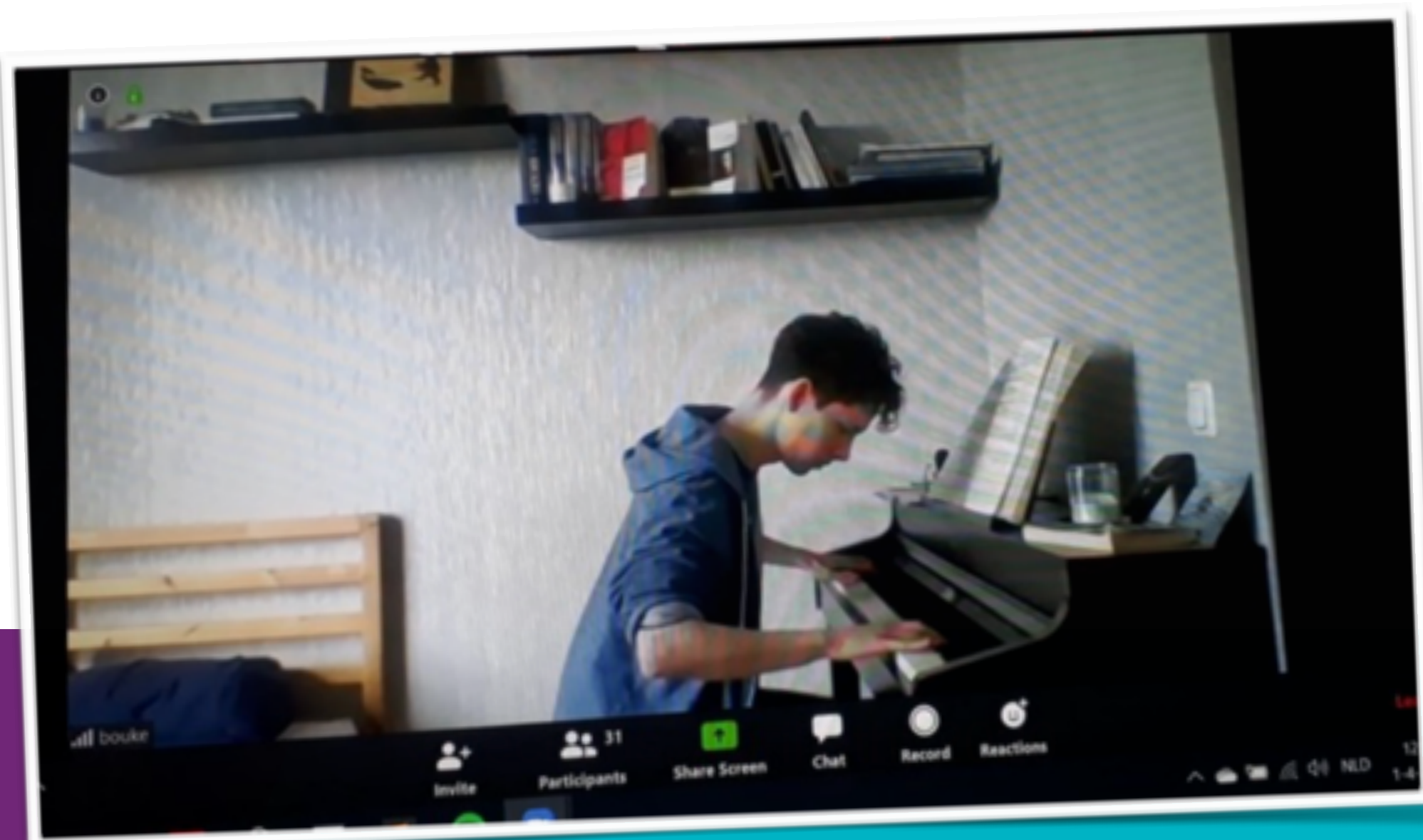
- Piano music through the centuries

Peter Kluit (yesterday)

- 17th century music - clarinet

Next concert:

- Dorothea Samtleben



RENOVATION

Final Design (DO) almost ready

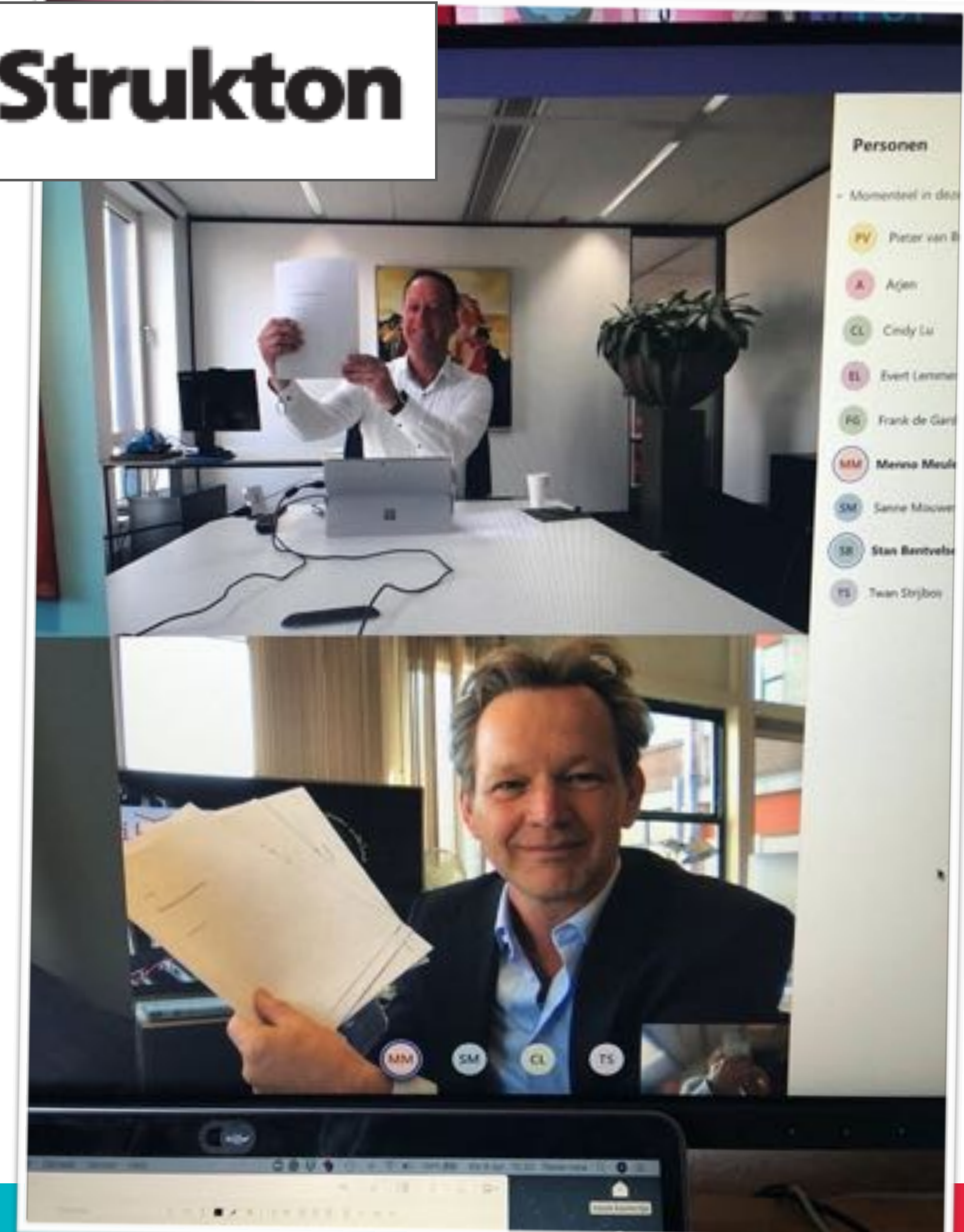
- Feed back via the work council
 - Documents available on intranet
- Full ambitions lead to cost overrun
 - Final numbers almost ready
 - make (presumably) tough choices

Start contract with constructor

- Construction phase toward the Technical Design
 - Signature of bouwteamovereenkomst



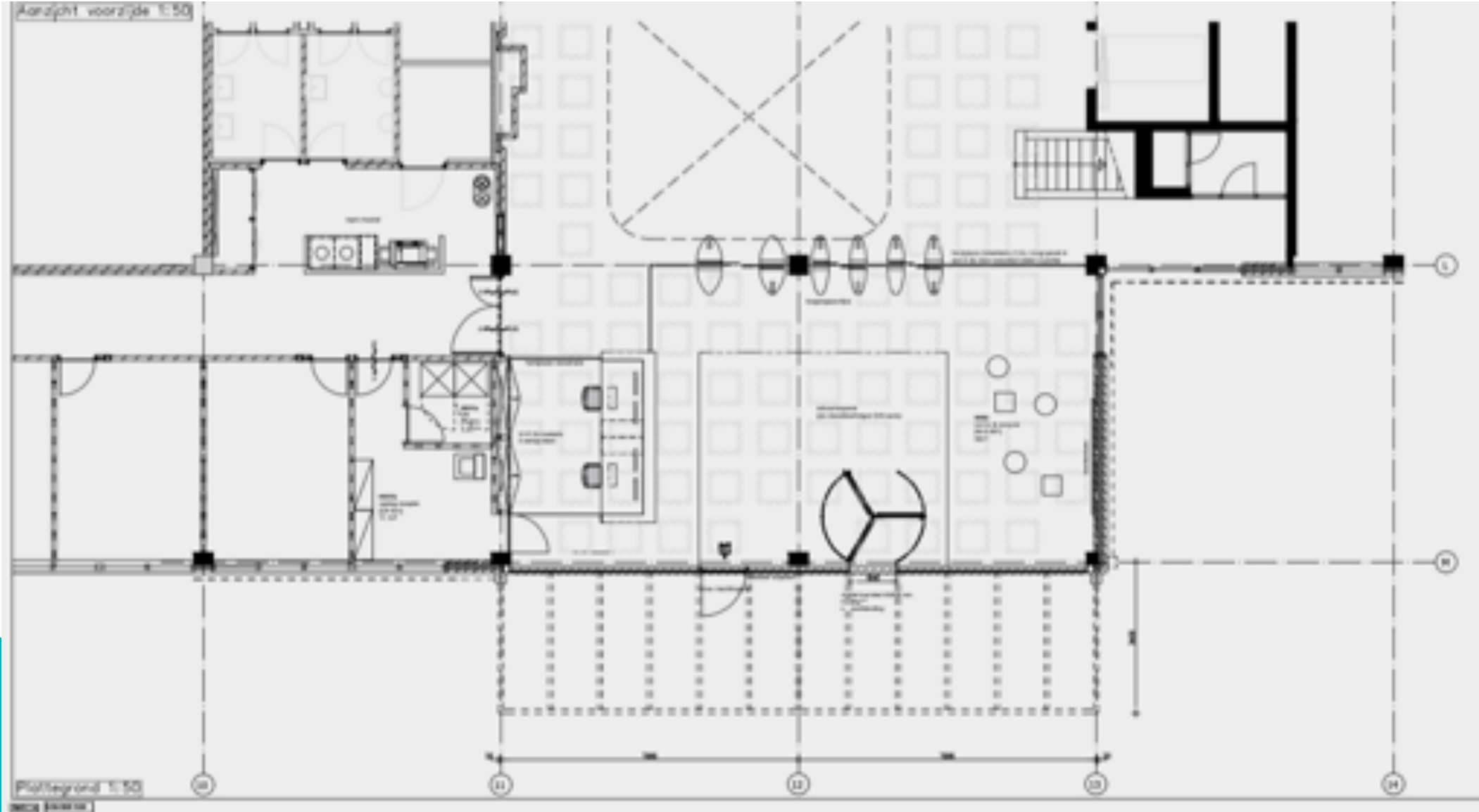
Strukton





RENOVATION

Entrance
re-designed



FUTURE

The corona crisis: we “have to live with it” for a long time

- The future of a “1.5m society”

We learn new ways to communicate and collaborate

- Thanks for all your flexibility and good spirits!

Please reflect during these Easter Holidays

- What are the benefits in the way we work at Nikhef during this crisis?
- We will pursue to identify advantages of this extraordinary time

Have a good weekend - take care and stay healthy!



HAPPY EASTER!