



Nikhef



THURSDAY, MAY 27, 2021

STAFF MEETING

Stan Bentvelsen

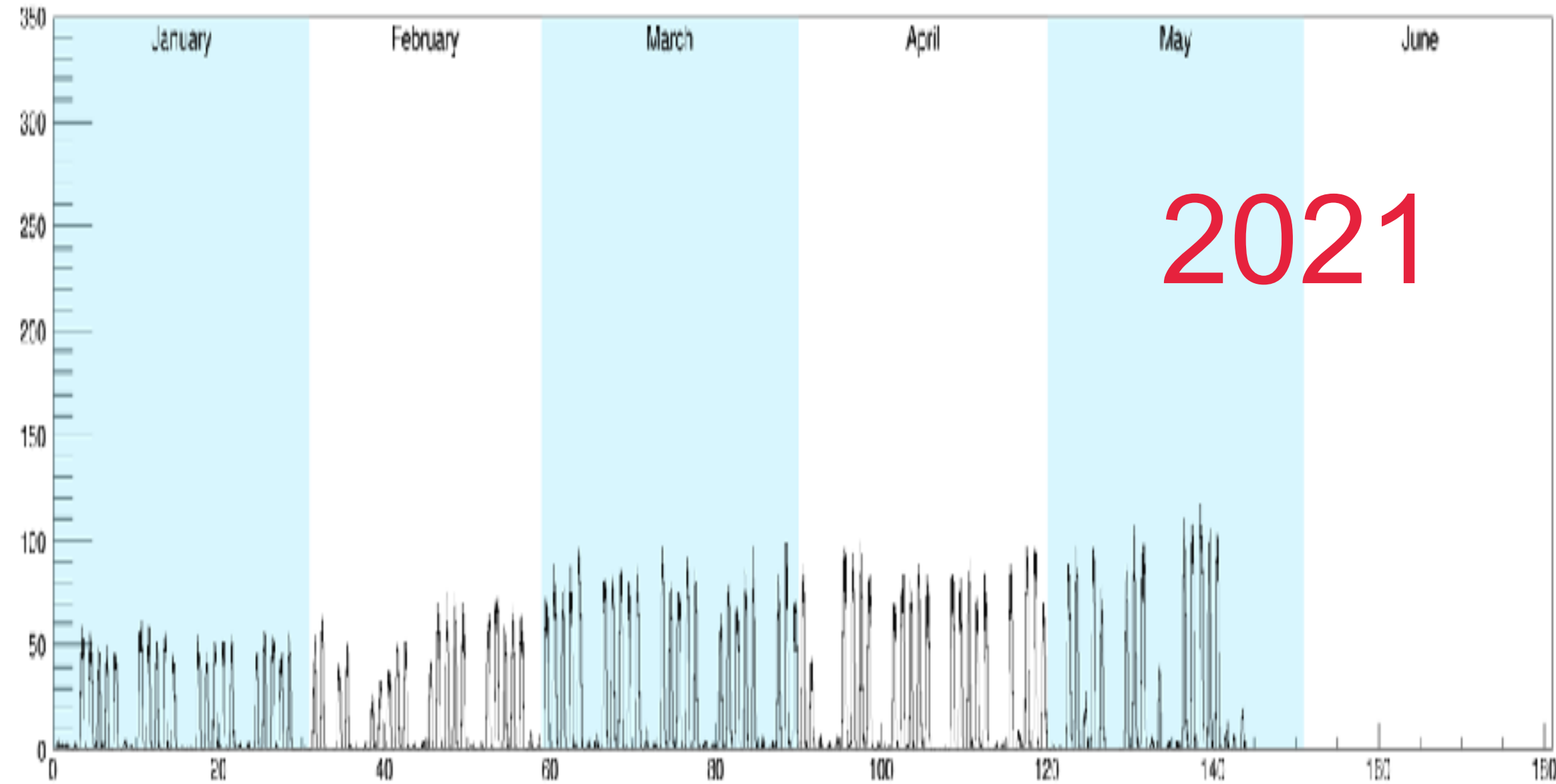
CONTENTS

COVID

‘recognition & reward’ discussion

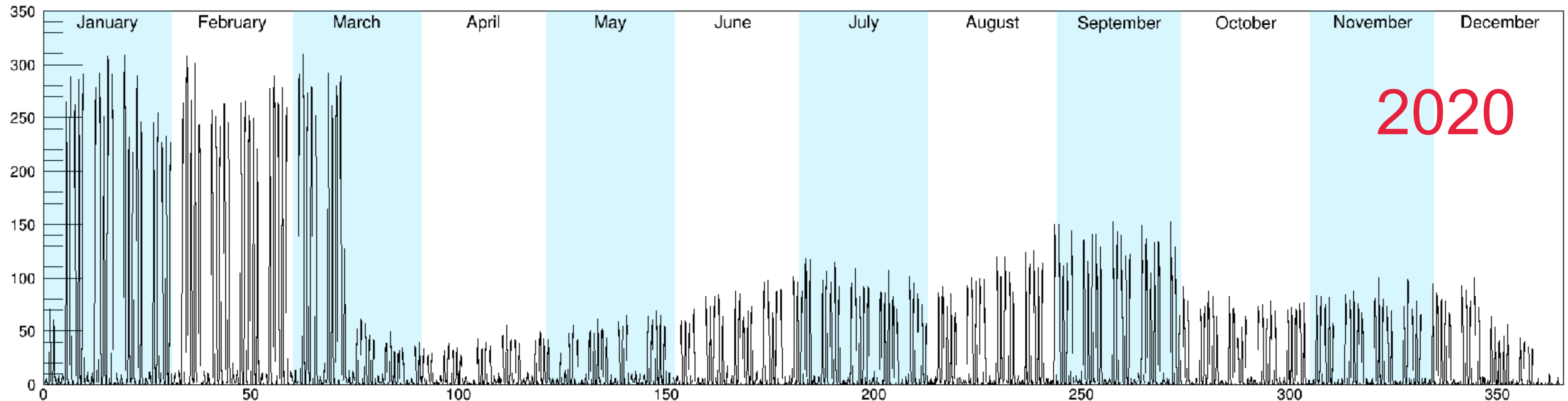
SAC meeting yesterday

PEOPLE AT NIKHEF



Number of people at Nikhef/Amsterdam well below 50%

- Safety measures are respected
- Regular COVID communications
- Happy to manage access to Nikhef with sizable personal responsibility



NIKHEF GRADUALLY OPENS UP AGAIN

There is room to come to Nikhef!

- for those who cannot work well from home, for whatever reason
- for short and small meetings
- for 1-on-1 encounters and discussion
- for inspiration, motivation, change of scenery

Please make sure that

- those who need and want this opportunity, can come to Nikhef
- do not stress: who feel safer to stay home, can work from home

Especially PhD and PostDocs!

NIKHEF GRADUALLY OPENS UP AGAIN

Occupation at Nikhef

- Total occupation of Nikhef building can slowly increase
- Occupation of offices in general: 2 people per room
 - In H-building with windows open
 - In SP110-building with Camfil unit switched on in mode 4
- Exceptions possible: Please discuss this with workingtogether@nikhef.nl
 - and we'll find a tailor-made solution

NIKHEF GRADUALLY OPENS UP AGAIN

Basic rules remain important for everybody

- Keep 1.5m distance from each other
- Adhere to general hygiene measures
- Take care of proper ventilation of inside spaces
- Stay home if you have corona-like symptoms

We do not make any distinction with vaccinated or recovered people

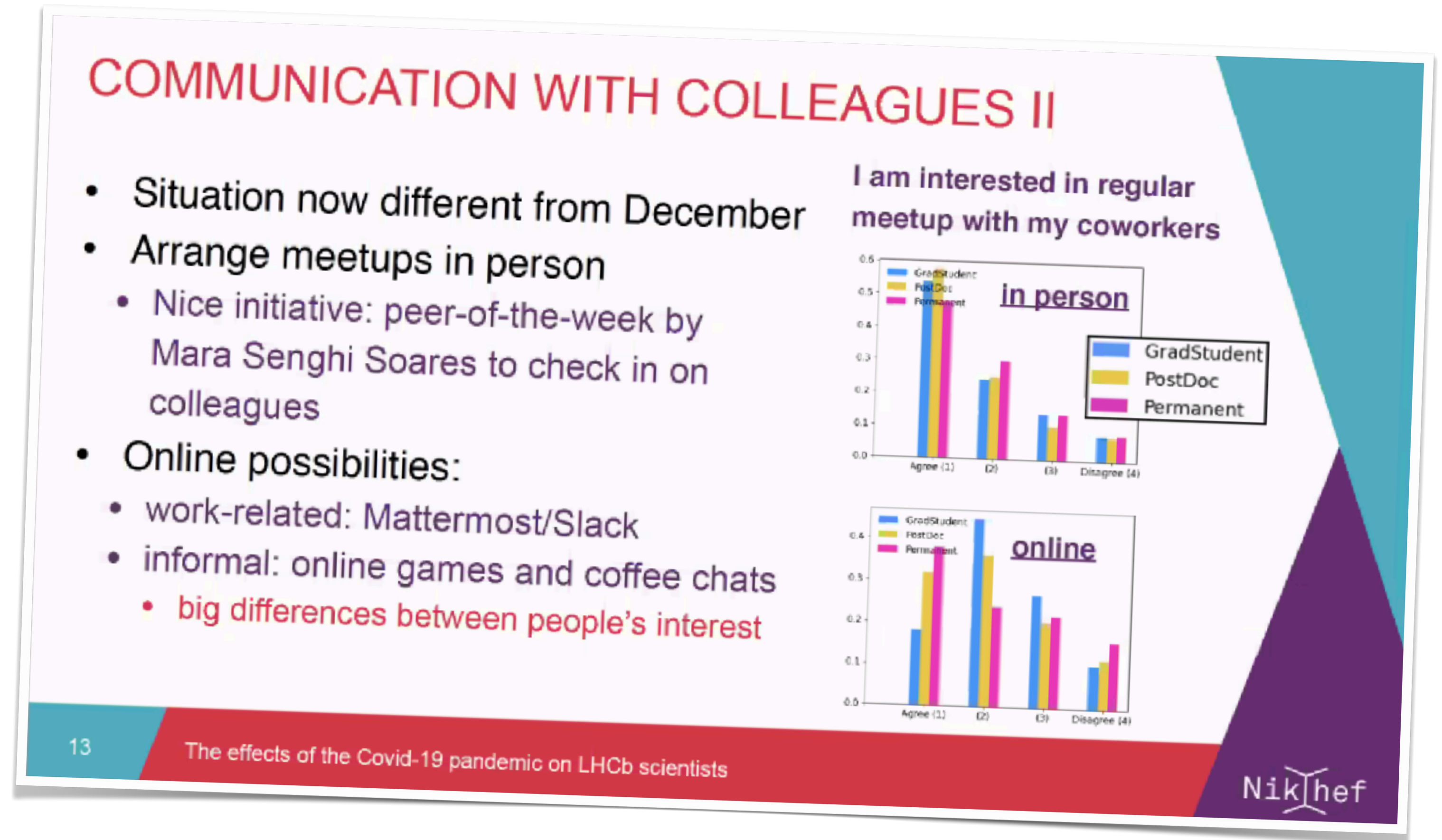
INITIATIVES TO MEET

Excellent initiative as presented by Valeriia & Suzanne

- Do we need Mattermost/Slack?
- You know wonder.me ?

Networking

- PhD career days
- Introduction meeting at Nikhef for new PhD & PD's (June 4th)



Recognition & Rewards at NWO-I

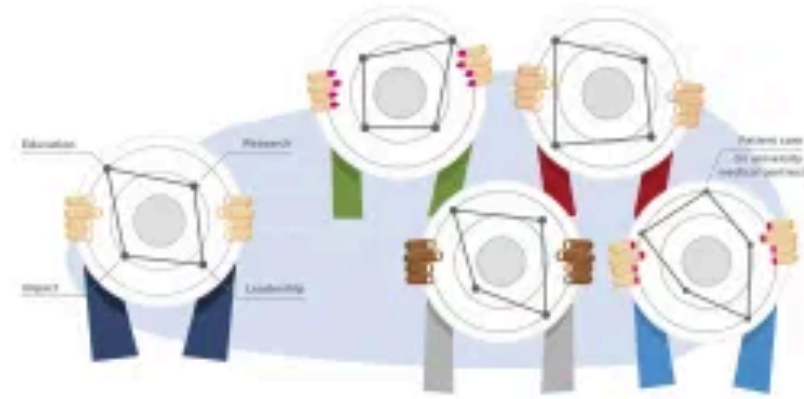


What is Recognition & Rewards?

- Cultural change to broaden and modernise the system of recognition & rewards
 - National movement
 - More balance between different tasks, not only focus on research & publications
 - Strengthen quality and cohesion between different tasks
 - Appreciation for (multidisciplinary) collaborations, team science, and societal impact
 - Acknowledge and support wider range of possible career paths
 - With an eye for sensitivities, e.g. international careers

What we aim for

Diversifying and vitalising career paths



We enable more diversity in career paths and profiles for academics

Achieving balance between individuals and the collective



We assess academics based on both their individual and their team performance

Stimulating open science



We encourage academics to share their research outcomes with society

Focusing on quality



In our assessments of academic performance, we increasingly focus on quality, content and creativity

Stimulating academic leadership



We stimulate good academic leadership at all levels.



Recognition & Rewards in the Netherlands

- Basis of national movement is the position paper 'Room for everyone's talent'
 - <https://recognitionrewards.nl/>
- More recognition for tasks in all key areas
 - National role
 - Research
 - Impact
 - Academic leadership
 - Education
 - Patient care (not relevant to NWO-I)
- Especially relevant for NWO institutes given diverse range of staff profiles
- NWO-I joins this national initiative through the NCRR

Recognition & Rewards at NWO-I

- NWO-I has installed one committee for all NWO institutes
 - Committee has representatives from all institutes, all career layers, HR, policy, communication, institute manager, and a director
 - Full list and contact details on last slide!
- The committee is working on a vision for NWO-I
 - Focus on key areas of particular relevance to all NWO-I staff (not just researchers)
 - Gather inputs and feedback from staff in coming months
 - Develop concrete recommendations and actions to improve NWO-I policies



Actions

- We would like to discuss our ideas with you in the coming months
 - We will send out a questionnaire in June
 - We will organize dialogue sessions surrounding the key areas to get your input
 - If you want to get more information or have questions: reach out to any of the committee members or send us an email CommitteeRecognitionRewards@nwo.nl

NWO-I Committee on Recognition & Rewards

#	Function	Member	Institute	Email
1	Chair/professor	Michael Wise (pfh DO)	DO, SRON	M.W.wise@sron.nl
2	Project leader/policy advisor	Laura Jussen	Bureau NWO-I	l.jussen@nwo.nl
3	PhD	Anna van der Kaaden	NIOZ	anna.van.der.kaaden@nioz.nl Temporarily replaced by: Dick van Oevelen dick.van.oevelen@nioz.nl
4	Postdoc	Ilan Shlesinger	AMOLF	i.shlesinger@amolf.nl
5	Tenure tracker	Bart Weber	ARCNL	b.weber@arcnl.nl
6	Tenured researcher	André Offringa	ASTRON	offringa@astron.nl
7	Senior researcher	Veroni Eichelsheim	NSCR	VEichelsheim@nscr.nl
8	Professor	Lynda Hardman	CWI	lynda.hardman@cw.nl
9	Professor	Maarten de Jong	Nikhef	mjg@nikhef.nl
10	Technical/Engineering member	Jan Geralt bij de Vaate	SRON	j.g.bij.de.vaate@sron.nl
11	Institute manager	Freya Senf	DIFFER	F.Senf@different.nl
12	HRM	Ghislaine de Meij	HRM, Bureau	g.demeij@nwo.nl
13	HRM	Linda Berkhout	HRM, AMOLF	l.berkhout@amolf.nl
14	HRM	Sandra Liefhebber	HRM, NIOZ	sandra.liefhebber@nioz.nl
15	Communications advisor	Erik Arends	Communication, SRON	E.Arends@sron.nl
16	External member	Rob Detmers	SRON (former scientist SRON, now policy)	R.G.Detmers@sron.nl

AGENDA SAC MEETING MAY 26

Part I

- 13:00 (Stan Bentvelsen) *Introduction*
 - Welcome, composition of the SAC and report last meeting
 - Aims for this meeting
 - Overview of Nikhef activities
- 13:45 (Marcel Merk) *LHC activities*
 - Status of the LHC upgrades
 - Prospects for LS4 – positioning of Nikhef for future R&D
- 14:15 (Paul de Jong) *KM3NeT*
 - Status of KM3NeT
 - Roadmap investment funding: ORCA vs ARCA
- 14:45 (Gravitational Waves) *Developments towards the 3rd generation GW infra*
 - (Frank Linde) Overview GW activities, industry.
 - (Stefan Hild) Status of the ETpathfinder – international positioning.
 - (Jo van den Brand) Status of ET project, challenges, consortia, politics.
- 15:30 break

AGENDA SAC MEETING MAY 26

Part 2

- 16:00 (SAC and Nikhef) *Discussion*
 - Further issues on the Nikhef strategy and developments (with Nikhef director)
- 16:30 (SAC) *Internal deliberations*
 - Closed session with SAC and secretariat.
- 17:30 (SAC and Nikhef) *Final words*
- 18:00 end

We are looking forward to your feedback

- A short written report would be appreciated
- Preferably before the Nikhef board meeting on June 11

SAC COMPOSITION

Composition of the SAC

- Joachim Mnich (2nd term - 31.03.2020)
- Nigel Glover (2nd term - 31.03.2020)
- Halina Abramowicz (2nd term - 31.03.2021)
- Barbara Erazmus (1st term - 31.03.2020)
- Gisela Anton (1st term - 31.03.2021)
- Jorgen D'Hondt (1st term - 31.03.2021)
- B.S. Sathyaprakash (1st term - 31.03.2021)

Extension of the SAC membership due to cancelation last year

- Thank you Joachim and Nigel to participate this year

THE MISSION OF NIKHEF

Survey: personal scientific motivation

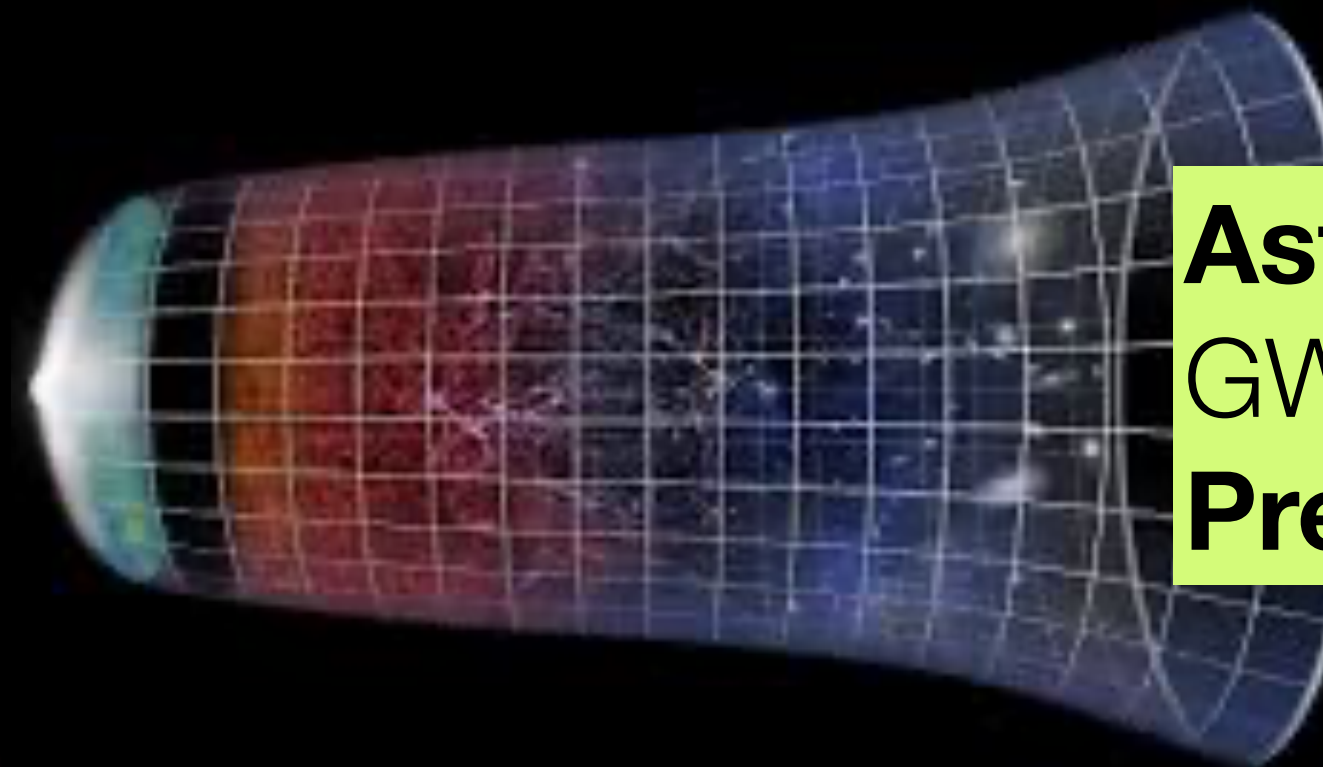
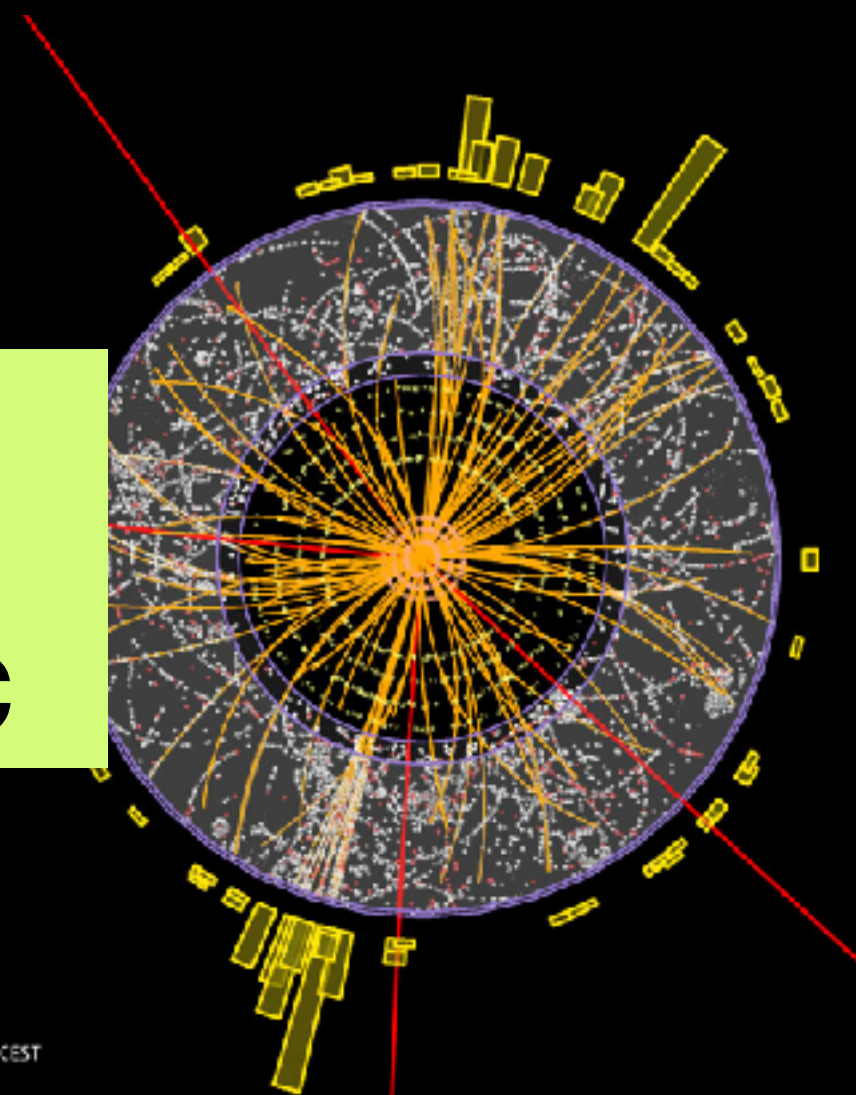
Still curious about how the universe works

Elementary constituents and forces of our Universe

- Accelerator based Particle Physics - at CERN
- Astroparticle physics - particles and radiation from the cosmos

LHC operation >2030
ATLAS, LHCb, ALICE
Preparations beyond LHC

ATLAS
EXPERIMENT
https://atlas.cern
Run: 183280
Event: 143576946
2021-09-14 12:37:11 CEST



Astroparticle physics
GW, DM, Neutrino, UHECR, $eEDM$
Preparations next generations

- Enabling programs
 - Detector R&D
 - Theory - phenomenology
 - Data Processing

- Technical workshops
 - Mechanical
 - Electronics
 - Computing

NATIONAL SCIENCE PROGRAM

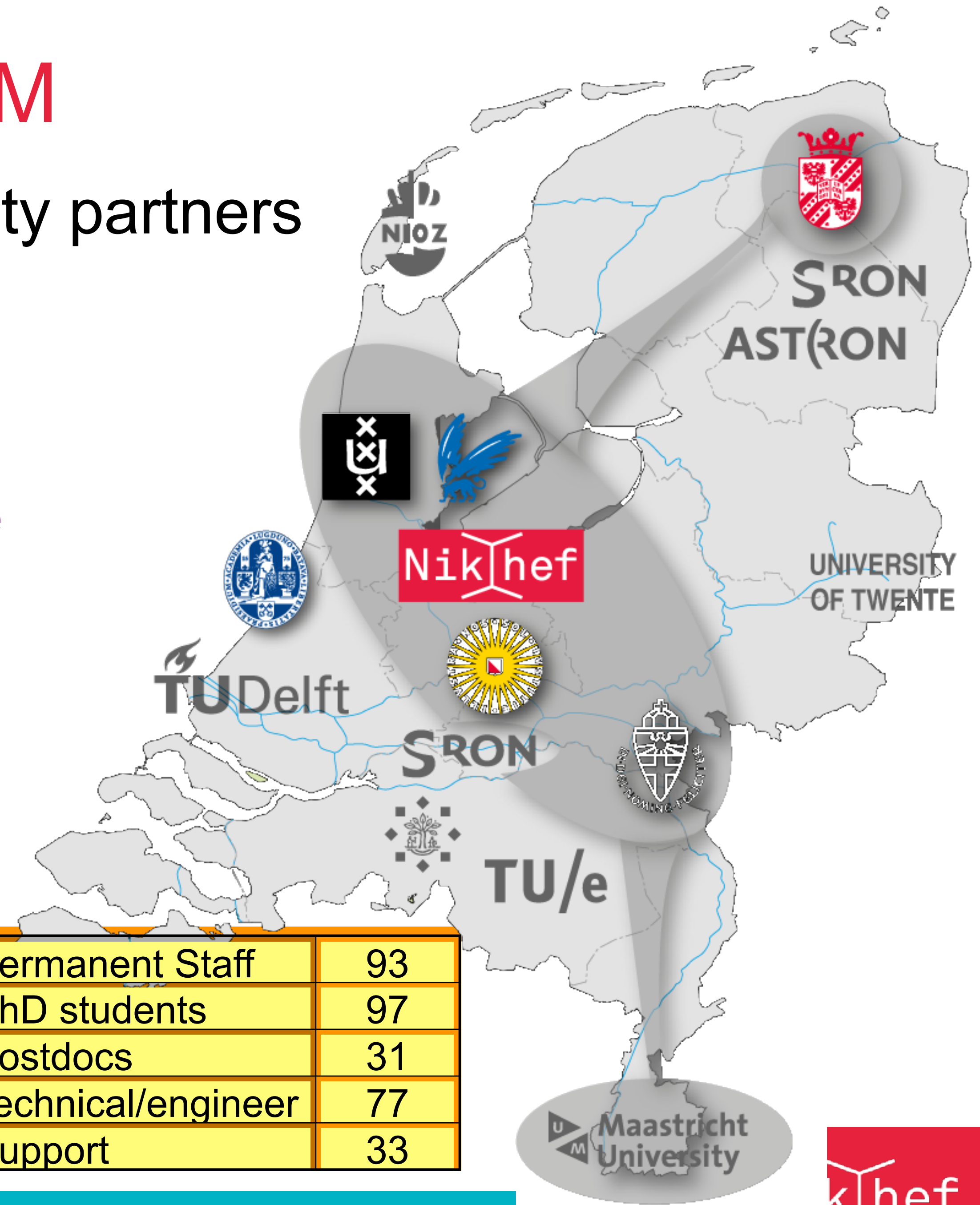
Symbiosis between NWO and six University partners

- University partners in key positions
 - Leaders of the scientific programs
 - 63% of our scientific staff from universities
- Added value Nikhef institute infrastructure
 - Technical competence and support
 - Large computing infrastructure
 - Long term strategy & commitment

Finance based on three pillars



Permanent Staff	93
PhD students	97
Postdocs	31
Technical/engineer	77
Support	33



PEOPLE AT NIKHEF



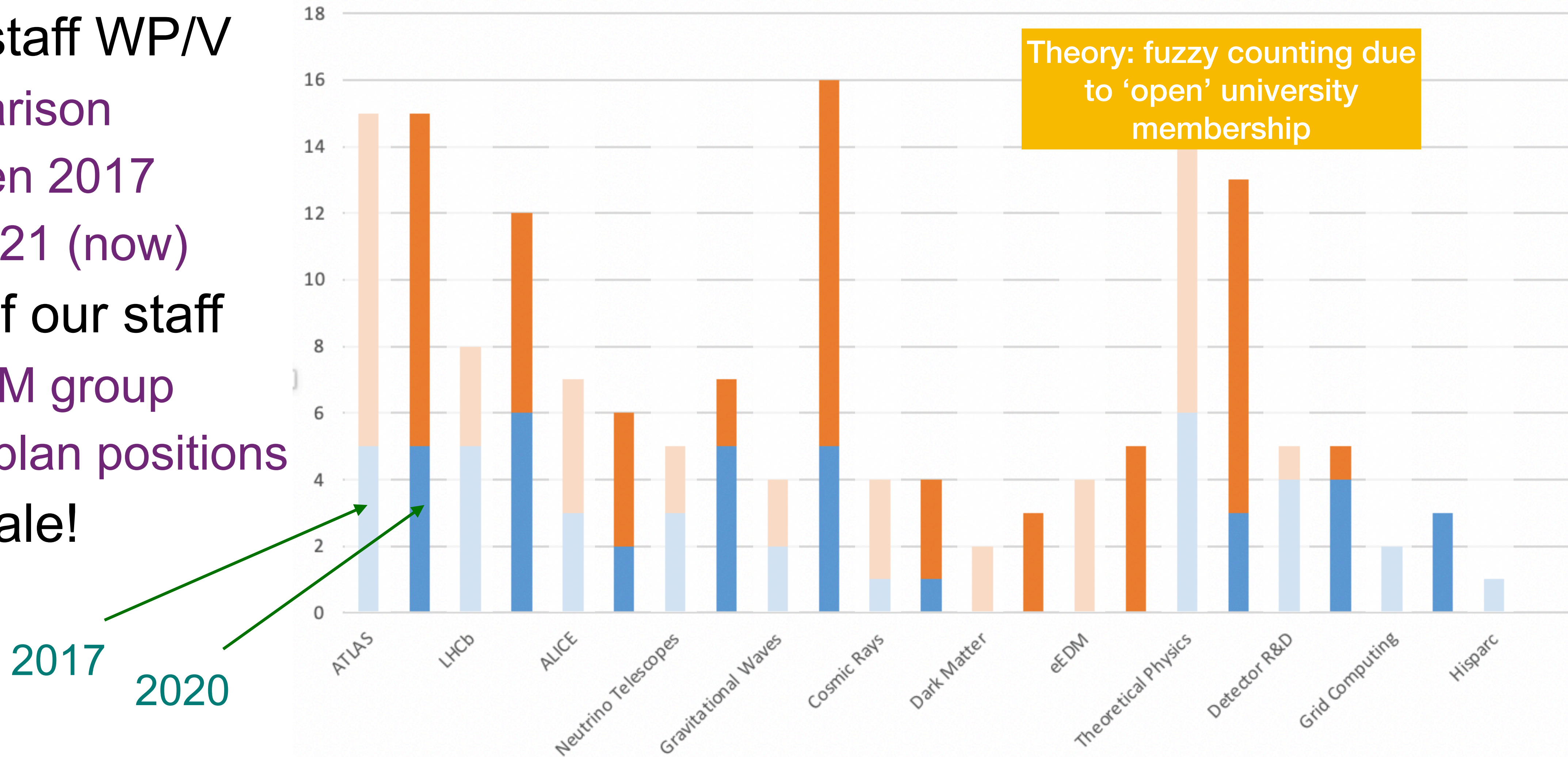
Scientific staff WP/V

- Comparison between 2017 and 2021 (now)

Increase of our staff

- New UM group
- Sectorplan positions

~22% female!



NEW SCIENTIFIC STAFF

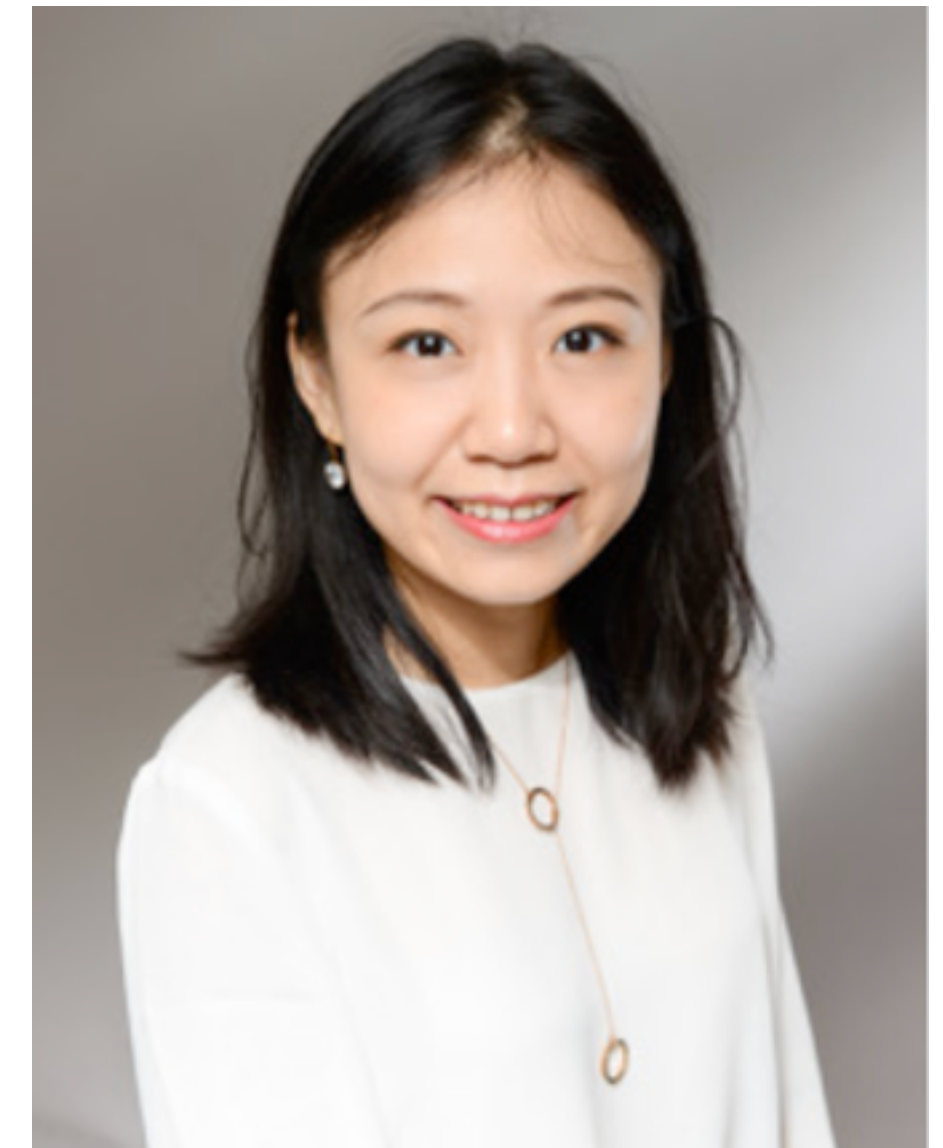
New hires in 2020



Tina Pollmann (Dark Matter)



Keri Vos (LHCb)



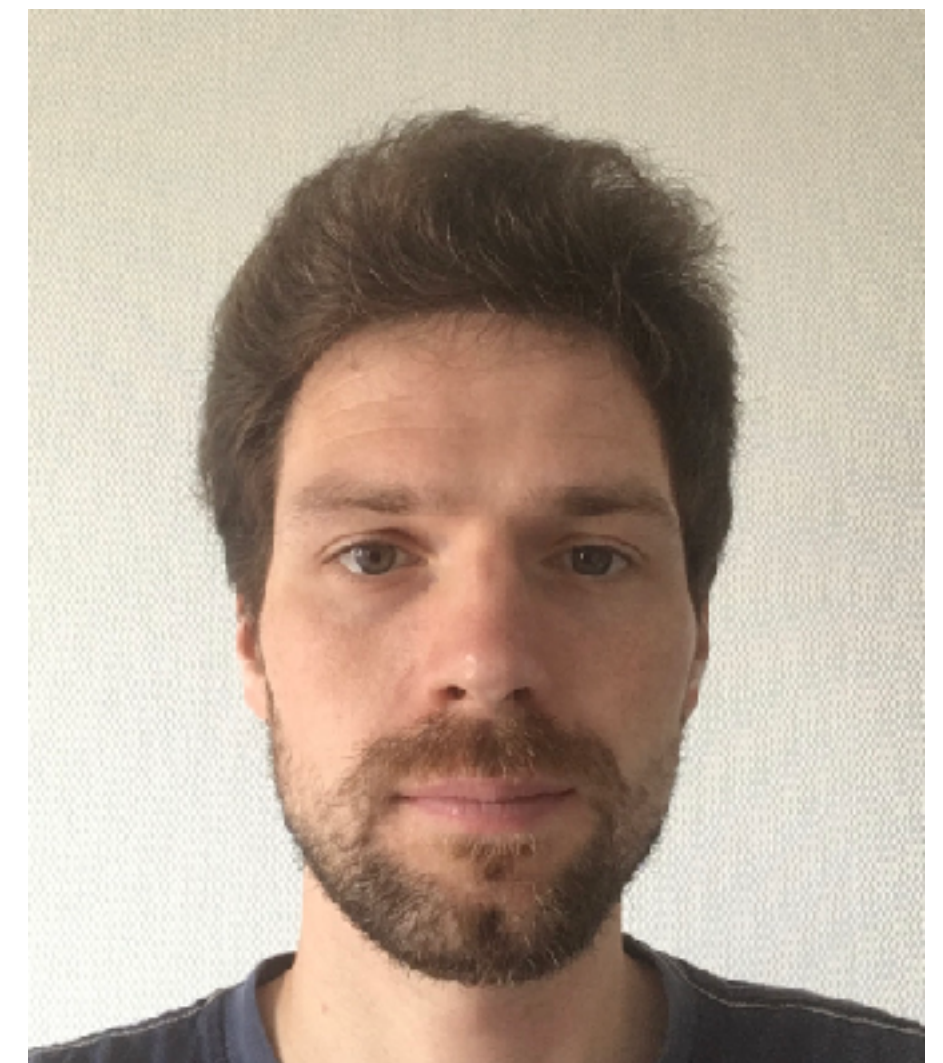
Mengqing Wu (ATLAS)



Jory Sonneveld (R&D)



Flavia de Almeida Diaz (ATLAS)



Kristof de Bruyn (LHCb)



Andreas Freise (GW) Conor Mow-Lowry

WORKSHOPS: MECHANICAL TECHNOLOGY

Workshops are rather busy at the moment

- LHC upgrades
 - Finish LHCb on Scifi and VELO modules
 - Upgrade ALICE: *done*
 - Peak work on ATLAS ITk, little bit ATLAS muons
- KM3NeT
 - Production of DOMs and DU's (!)
- Gravitational Waves
 - Upgrade Virgo FDS: *done*
 - Virgo/ETpathfinder attract lot of work
- R&D

Renovation of Nikhef

- Workshops closed during this summer (until late September)



Refurbished clean room with complete air control

STRATEGY 2017-2022



1. *Proven approaches*

- Construct the upgrades and exploit the physics of the LHC experiments ATLAS, LHCb and ALICE
- Build KM3NeT phase 2.0 and exploit neutrino (astro)physics
- Exploit the astroparticle experiments Advanced Virgo, XENON1T/NT and the Auger Observatory
- Full utilisation of the theory, detector R&D and computing activities

2. *New opportunities:*

- Determine the electron EDM with world-class precision
- Prepare for a post-LHC high-energy accelerator period
- Strengthen and exploit the thematic connections between individual scientific programmes
- Prepare a bid to locate the Einstein Telescope in the Netherlands

3. *Beyond scientific' goals:*

- Establish further links with industry in terms of transfer of knowledge generated at Nikhef
- Attract and train a new generation of scientists and engineers
- Modernise the Nikhef branding and building
- Inspire and nurture scientifically aware general audiences

STRATEGY 2017 - 2022

1. Proven approaches

- Construct the upgrades and exploit the physics of the LHC experiments ATLAS, LHCb and ALICE
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- Full utilisation of the theory, detector R&D and computing activities

 OK

 Needs attention

 Failure

What did Nikhef achieve?

-  LHC upgrades in full swing (roadmap funding), time pressure, COVID
-  KM3NeT2.0 started (roadmap funding). French funding is lacking.
-  Gravitational Waves at Virgo a success, upgrades ongoing (NWO-G)
-  AugerPrime with SSD and radio in construction (NWO-G)
-  Computing guaranteed for next period (roadmap funding)

STRATEGY 2017 - 2022

2. *New opportunities:*

- Determine the electron EDM with world-class precision
- Prepare for a post-LHC high-energy accelerator period
- Strengthen and exploit the thematic connections between individual scientific programmes
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What did we achieve?

- 🤔 eEDM is a challenging *in-house* project. Under construction.
- 🤔 ESPPU: Long term planning for LHC experiments. Needs funding.
- 😊 Thematic connections: nice examples of crossing program boundaries
- 🤔 Preparation for ET-NL in full swing. Potentially large impact on Nikhef.

STRATEGY 2017 - 2022

3. *Beyond scientific' goals:*

- Establish further links with industry in terms of transfer of knowledge generated at Nikhef
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- Modernise the Nikhef branding and building
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What did we achieve?

- 😊 Effective ILO with (improved) industry activity for CERN and ET-NL
- 🤔 Attract more students from Partner Universities
- 😊 Nikhef house-style ready; renovation building has just started
- 😞 COVID-19 seriously hampers our outreach activities!

RECOMMENDATIONS SEP EVALUATION PANEL - 2017

Research quality

- 😊 Put in place mechanisms that enable vigorous pursuit of hosting ET in the Netherlands
- 😊 Join EGO/VIRGO as full members in view of hosting the ET in the Netherlands.

Viability

- 😞 Long-term projects require long-term funding. NWO is encouraged to adapt its funding schemes

Research integrity

- 😟 Raise more awareness and procedures in case issues arise concerning research integrity

PhD programmes

- 😟 Urges Nikhef to reduce the duration of the PhD research projects to the nominal 4 years

Diversity

- 😊 Pleased to see an improvement gender balance and encourages its continuation, at senior levels

FEEDBACK OF THE SAC (I)

Please, report anything you think is relevant!

- Your feedback and written report have shown to be very valuable

A few items that I like to bring to your attention

- “Are we on the right track?”

1. LHC experiments in light of the ESPPU:

- We have the ambition to become further significant in projects with 4d tracking detectors (i.e. with fast timing) for LHCb, ALICE and ATLAS jointly with the R&D group. Details will be presented by Marcel Merk.
- Prepare for National Roadmap funding request in 2023

1. LHC EXPERIMENTS IN LIGHT OF THE ESPPU:

Push for coherent detector construction involvement

- Develop a strong, focused and coherent R&D programme:
 1. Optimize and develop available competences *in-house* (R&D, ET, CT, ...)
 2. Clients are detector upgrades of the LHC experiments in LS4 - *and others*
 3. Beyond LHC: instrumentation for detectors @FCCee, DUNE, ILC, ...
- Opportunities
 - *Tracking*: Smart pixel detectors with ultra fast timing (hybrid and monolithic)
 - *DAQ*: State-of-the-art technologies e.g. FELIX
- Nurture existing expertise
 - Full responsibility for the construction & running of complete detector systems

FEEDBACK OF THE SAC (II)

2. KM3NeT

- Funding from National Roadmap in 2018 (12.7ME)
 - Based primarily on the physics of ORCA (France), under the assumption that France will contribute ~20ME. However, the French funding was not successful this year.
 - First 6 ARCA lines have been deployed, but with 'temporary' Junction Boxes
- We plan to continue with the production of ~20 ORCA strings.
 - Our contribution to ARCA will be smaller in phase-2. Details by Paul de Jong.
 - Nikhef is the driver for its urgency.
- Nikhef supports (and is active) in the formation of an ERIC

FEEDBACK OF THE SAC (III)

3. Gravitational Waves and Einstein Telescope:

- We have established a sizable group on GW in the Netherlands
 - Maastricht, new Nikhef member, has installed a complete group with 5 staff
 - Activities in Virgo, the ETpathfinder and the preparations of the ET itself.
- Nikhef has become full member of EGO - Virgo
 - Next to CNRS and INFN. Nikhef funds the membership (450kE/year) from mission funding.
- Preparation of the ET, with emphasis on ET-NL
 - *International ET*, e.g. governance: new ET Project Directorate (F Ferroni & J vd Brand)
 - *ET in our region NL, B, D*: e.g. Consortium building with Belgium and Germany and others
 - *ET in NL*: e.g. constructive support Limburg. Frequent contact with ministries. Funding?
- ET Presentations by Frank Linde (group leader GW), Stefan Hild (project leader ETpathfinder) and Jo van den Brand (ET Project Directorate).

Presentations see:

<https://indico.nikhef.nl/event/3142/>

NATIONAAL GROEIFONDS



**Einstein
Telescope**



De Einstein Telescope: een unieke kans voor Nederland

Mei 2021 - Voorstel Nationaal Groeifonds

De Einstein Telescope biedt Nederland de unieke kans een wereldwijde leiderschapspositie te nemen in een nieuw baanbrekend wetenschapsgebied. Zuid-Limburg heeft de bewezen kwaliteiten voor een sterke kandidatuur en kan profiteren van de grote impact. In 2025 wordt definitief beslist over de vestigingslocatie.

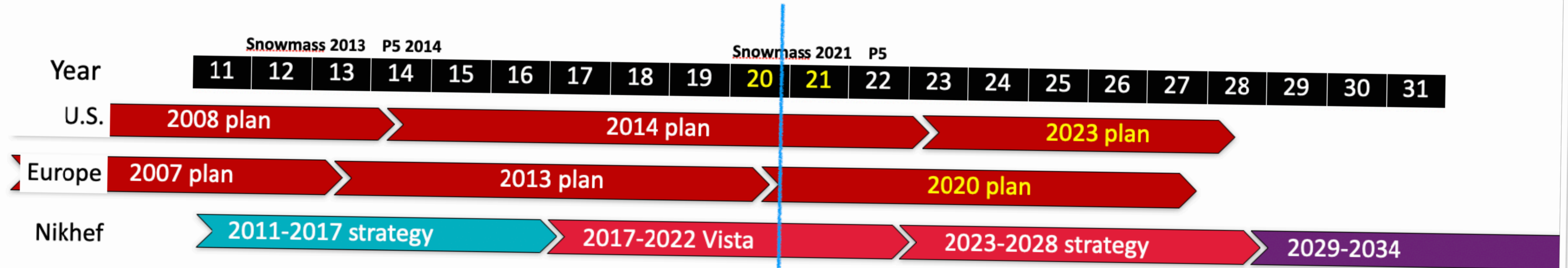
Prepare 500 words narrative for pre-selection

- to be submitted early next week

NIKHEF STRATEGY CYCLE

community strategy discussions:
postponed until after pandemic

Vista: Strategy of Nikhef: 2017-2022



- Our next strategy period: 2023-2028
- We have ample time to discuss its content!

The real VistaUpdate discussions are postponed to 2021

- Post-COVID: potential decisions will ***not*** be made today

VISTA UPDATE STRATEGY MEETING

Evaluation of the Nikhef science portfolio - a continuous process

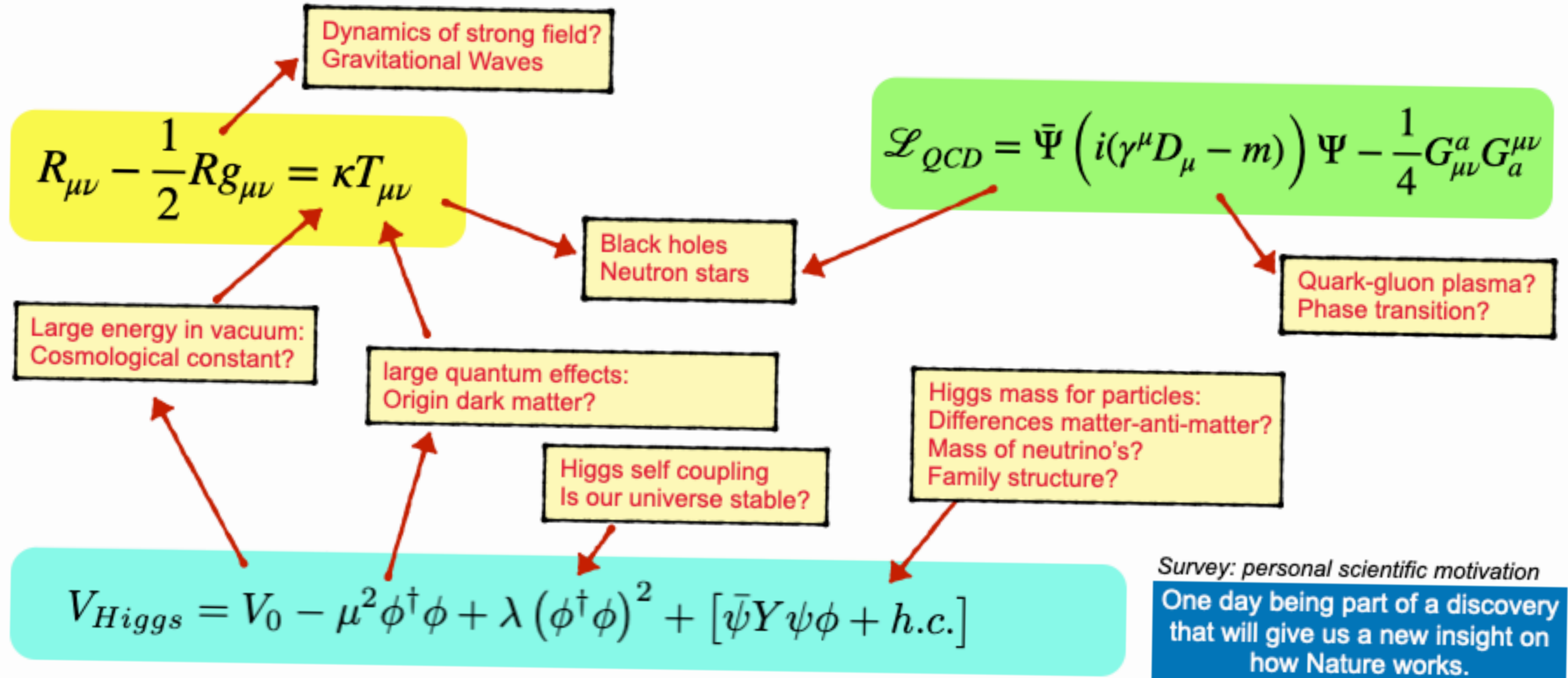
- Main *science-drivers* for VistaUpdate:
 - Mid-term evaluation of the Nikhef strategy 2017-2022
 - Nikhef and the ESPPU and APPEC roadmap
 - Einstein Telescope in the portfolio of Nikhef

Stripped version of the scientific discussion

- COVID-19 prevents live discussions
 - Postpone our hotel Zuiderduin meeting
- We are forced to only virtual presentations
 - Constructive discussions in zoom are very hard!



WE LIVE IN A MOST FASCINATING TIME!



Survey: personal scientific motivation
One day being part of a discovery that will give us a new insight on how Nature works.

Survey: personal scientific motivation
"That I may understand whatever binds the world's innermost core together" (J.W von Goethe, Faust)

FUNDING REQUESTS

Recent pre-proposals submitted for ENW-XL (~3ME) - last week

1. A Roadmap to the Microscopic Universe: Particle Physics Meets Gravity
 - A fresh theory collaboration, PI is E. Pallante
 - Beenakker, Bergshoeff, Boer, Fleischer, Laenen, Loll, Mazumdar, Saueressig, Waalewijn
2. Unravelling the origin of particle generations
 - Theory meets experiment, PI is M. Senghi Suarez
 - de Almeida Diaz, Ferrari, Hulsbergen, Rojo, Tuning, Vos, de Vries
3. Probing the phase diagram of quantum chromodynamics
 - New collaboration between ALICE, GW, theory and Astronomy, PI is A. Watts
 - Caudill, Christakoglou, Even, Gürsoy, Hinderer, Moesta, Nissanke, Snellings, vd Broeck
4. Multi-messenger Exploration of Cosmic Superaccelerators (MECS)
 - New collaboration Auger, KM3NeT, Theory. PI is S de Jong
 - Ando, Heijboer, Samtleben, Vecchi, Bouwhuis, Bruyn, Buis, van Eijk, Galea, Horandel, M de Jong, P. de Jong, Mulrey, Peletier, Schoorlemmer, Timmermans, Vink
5. FASTER - Fast sensors and Algorithms for Space-time Tracking and Event Reconstruction
 - New collaboration R&D, ATLAS, LHCb & PDP. PI is H. Snoek
 - Beuzekom, Carvalho Akiba, Aaij, Grelli, Sonneveld, Perez, Wu, de Vries, de Bruyn
6. Next-generation table-top tests of time-reversal symmetry using cold and slow molecules
 - eEDM group, PI is S Hoekstra

A FEW REMARKS

Survey: what you like to bring up?

The elephant in the room will be GW/ET I fear. One way or another it would be good for Nikhef to establish much more intense links between GW people on the one hand and Standard Model people on the other hand.

Communities @Nikhef

- 1. The lifeline of Nikhef is closely tied to CERN
- 2. The non-CERN community is growing at Nikhef
 - We enforce to keep a sensible balance:
The size of the CERN activities should not become smaller than non-CERN activities

Further increase scientific & instrumental dialogue!

- We have a diverse portfolio and communities are somewhat separate
 - Instrumentation for detector physics and interferometry are very different
 - Strengthen the coherence between our activities
- *Pro-active to discuss mutual interest and overlap in science programs*
 - *Pro-active in the education program of PhD's*

PARTICLE PHYSICS AMBITIONS - I

(2021 - 2023)

- Astronomy: LISA and ELT
 - LISA proposal with a small contribution to the ETpathfinder instrumentation, e.g. QPD.
- Upgrade of the LHC experiments ALICE, LHCb and ATLAS; in addition to position Nikhef instrumentation beyond LHC. Clearly, 2021 is too early for this submission and even 2023 may be a little early.
- Neutrino infrastructure: combination of DUNE and DARWIN, and potentially a part for KM3NeT. *To be discussed at VistaUpdate*

(2025-)

- Einstein Telescope instrumentation with focus on vacuum and cryogenics. Potentially together with LISA?

FEEDBACK OF THE SAC

The SAC was impressed by the presentations and by Nikhef in general

- It was a (virtual) meeting, online
- No specific feedback on Dark Matter, eEDM, PDP and Auger

Report will be used for the Nikhef board meeting

- On the agenda of June 11