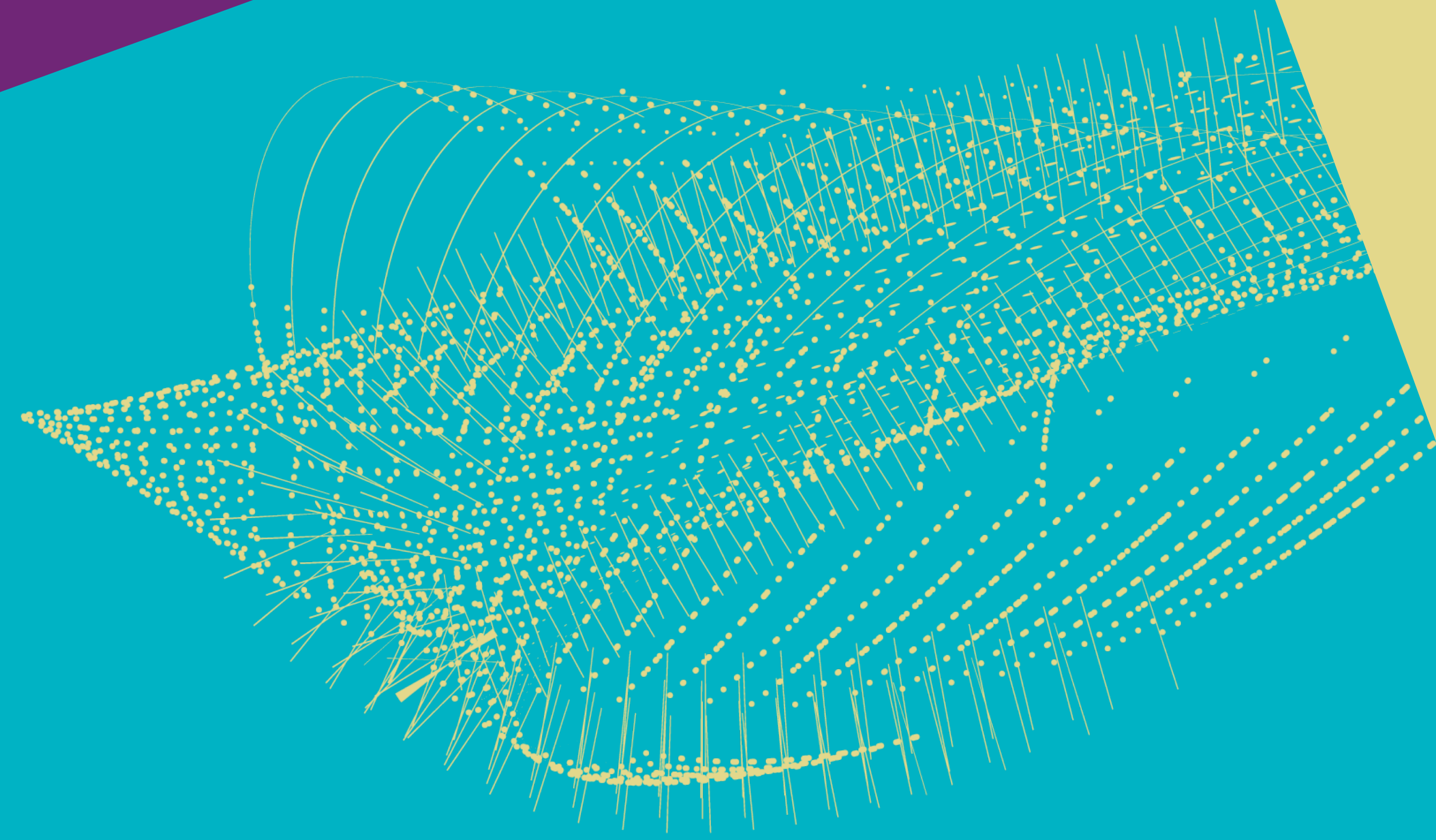


Nikhef



QUESTIONNAIRE 2020

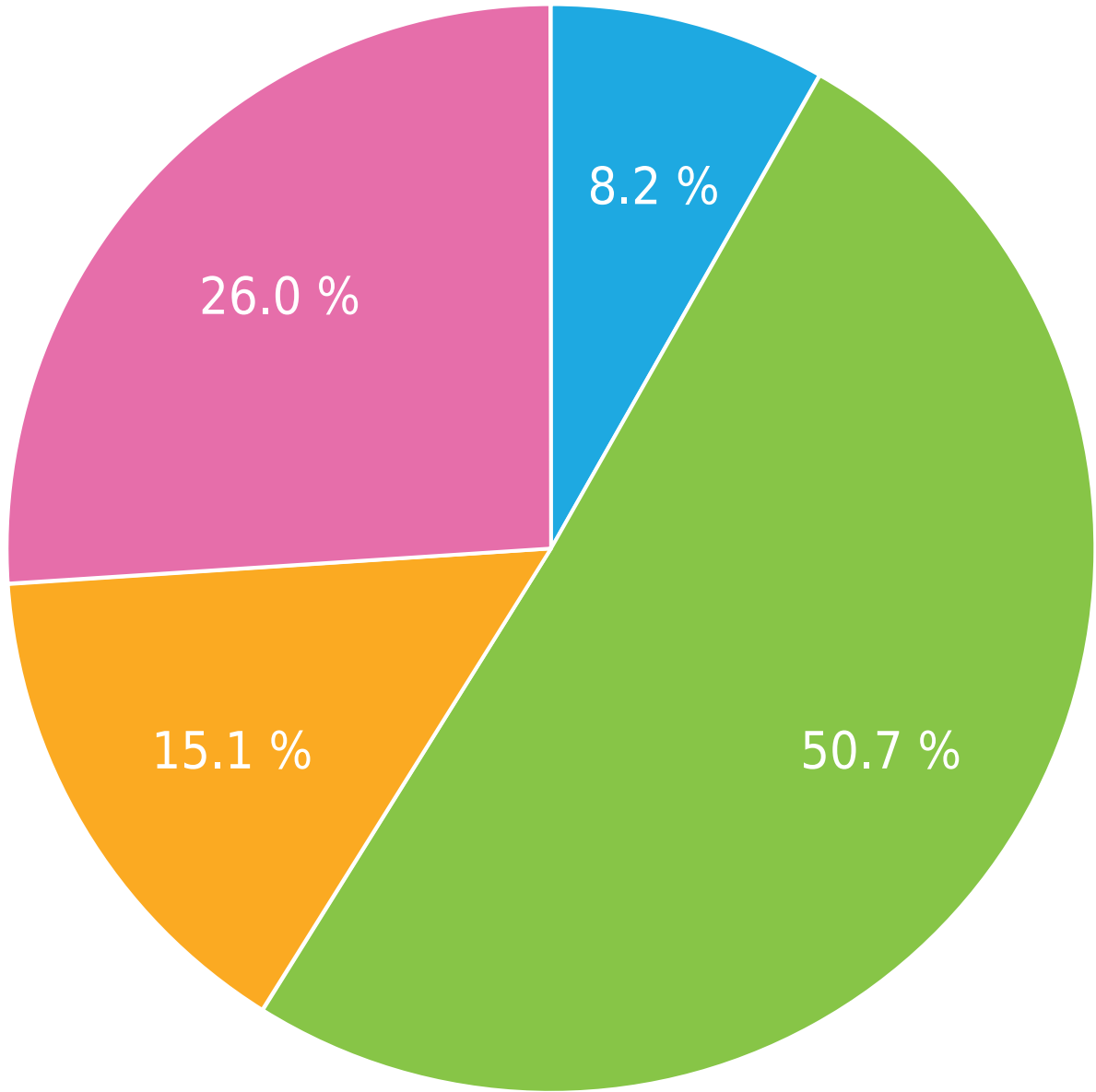
Charles Timmermans

TIME TO COMPLETE QUESTIONNAIRE

Average Time of Completion

It was a long survey

Thank you for taking it serious!



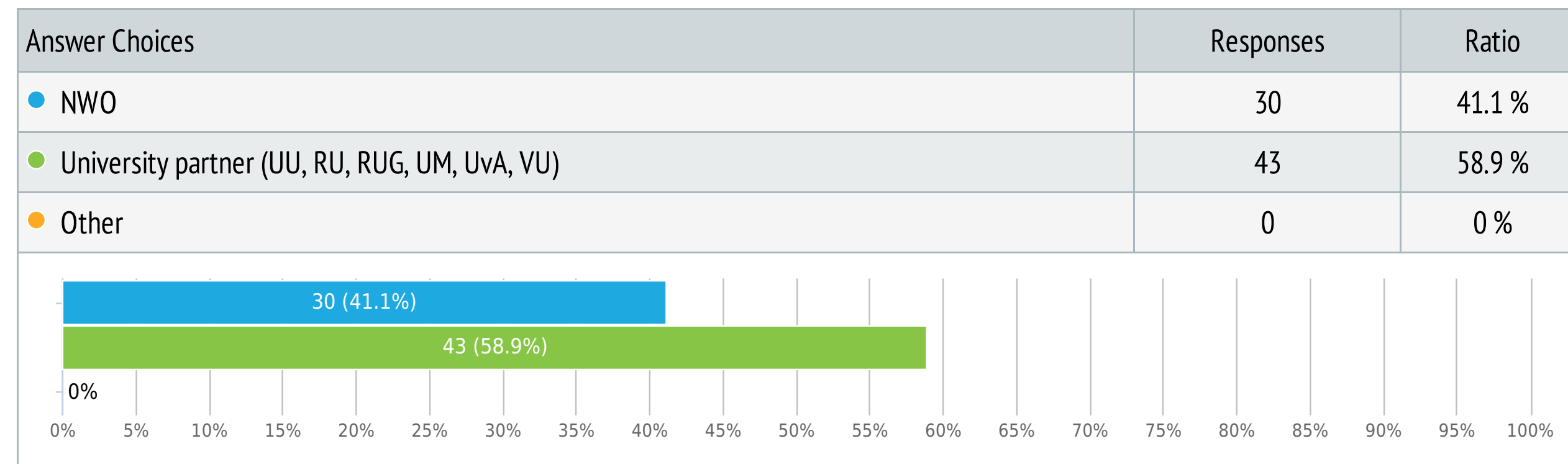
- 5-10 min. (8.2 %)
- 10-30 min. (50.7 %)
- 30-60 min. (15.1 %)
- >60 min. (26.0 %)

WHO FILLED OUT THE SURVEY?

THE STAFF THAT FILLED OUT THIS SURVEY

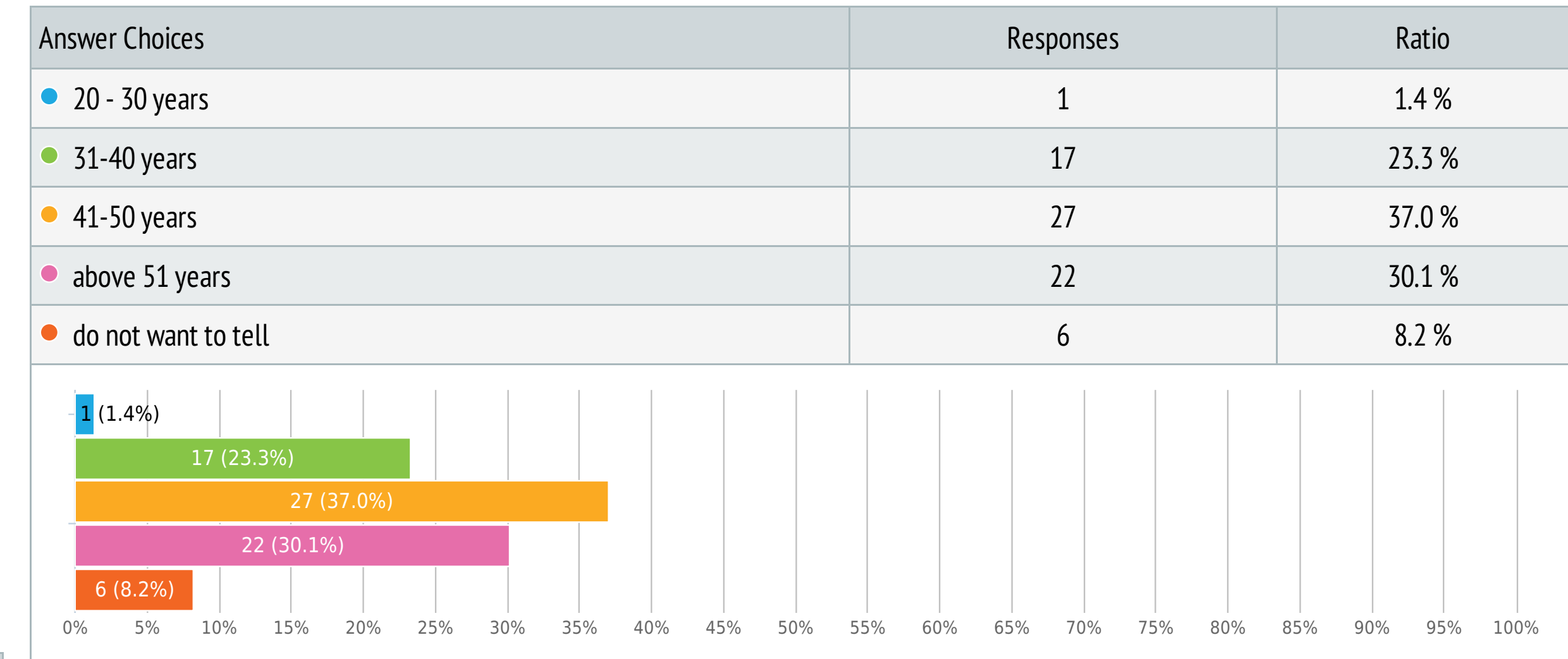
Are you employed by NWO or a University

Single choice, answers 73x, unanswered 0x



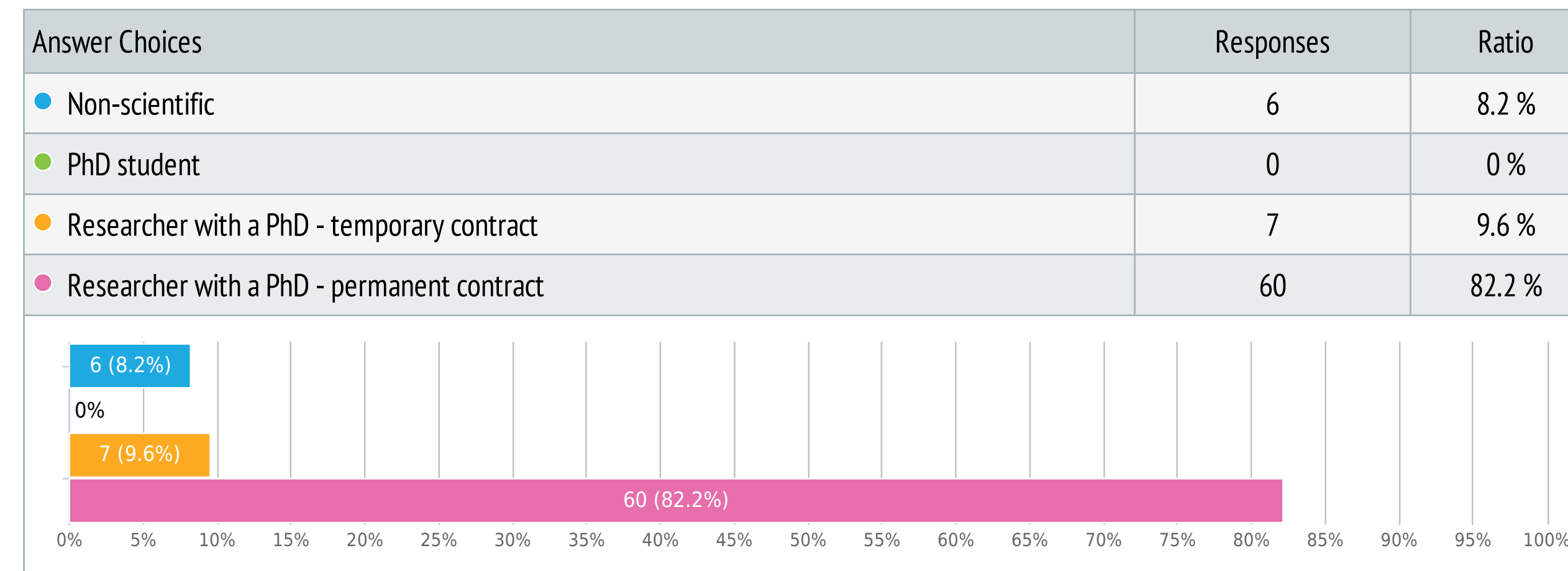
What is your age

Single choice, answers 73x, unanswered 0x



What is your professional status

Single choice, answers 73x, unanswered 0x

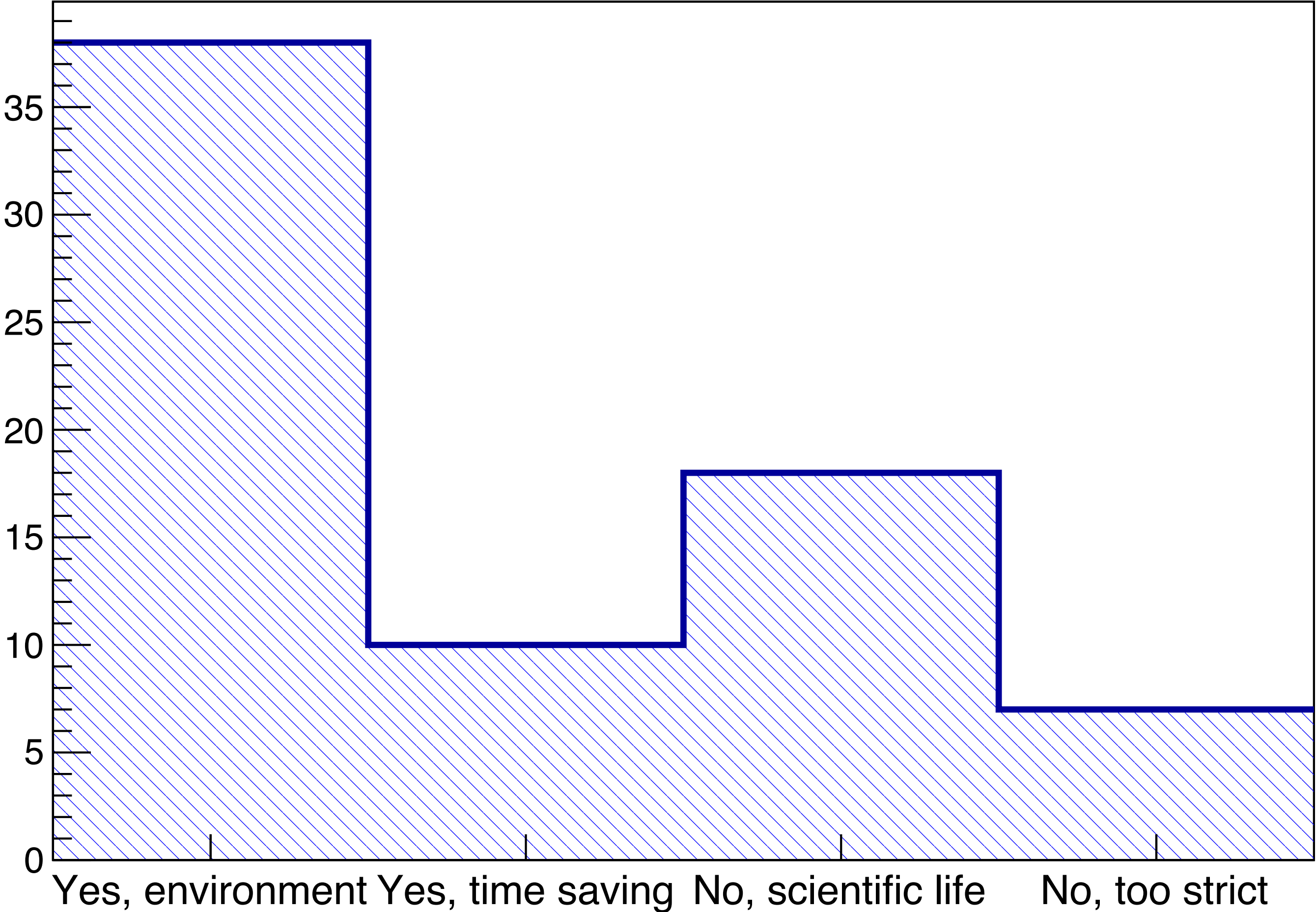


73 staff members filled out the questionnaire
81 people registered on indico

ARE WE WILLING TO REDUCE TRAVEL?

I am willing to restrict long distance traveling for work

"I WOULD LIKE TO ELABORATE ON THE LAST QUESTION ABOUT TRAVELING: ALL MAJOR EXPERIMENTS ARE LARGE INTERNATIONAL COLLABORATIONS AND TRAVELING TO THE EXPERIMENT IS THEREFORE A NECESSARY PART OF THE SCIENTIFIC PROCESS. BUT THIS IS NOT INCOMPATIBLE WITH ENVIRONMENTAL EFFORTS. IT IS POSSIBLE TO TRAVEL BY TRAIN INSTEAD OF PLANE, BUT THIS IS SADLY MORE EXPENSIVE AND OFTEN MORE TIME CONSUMING. I WOULD THEREFORE LIKE TO SEE NIKHEF MAKE AN EXPLICIT STATEMENT ABOUT THE USE OF TRAINS VERSUS PLANES, AND BRING UP THIS POINT IN THEIR DISCUSSIONS ABOUT TRAVEL FUNDING WITH NWO."



OUR OWN SCIENCE INTEREST AND PLANS

IN WHICH PROGRAM ARE YOU ACTIVE AT NIKHEF?

Note that it was possible to give more than 1 answer

Total number of entries: 97

Other activities that were mentioned:

Astroparticle Physics

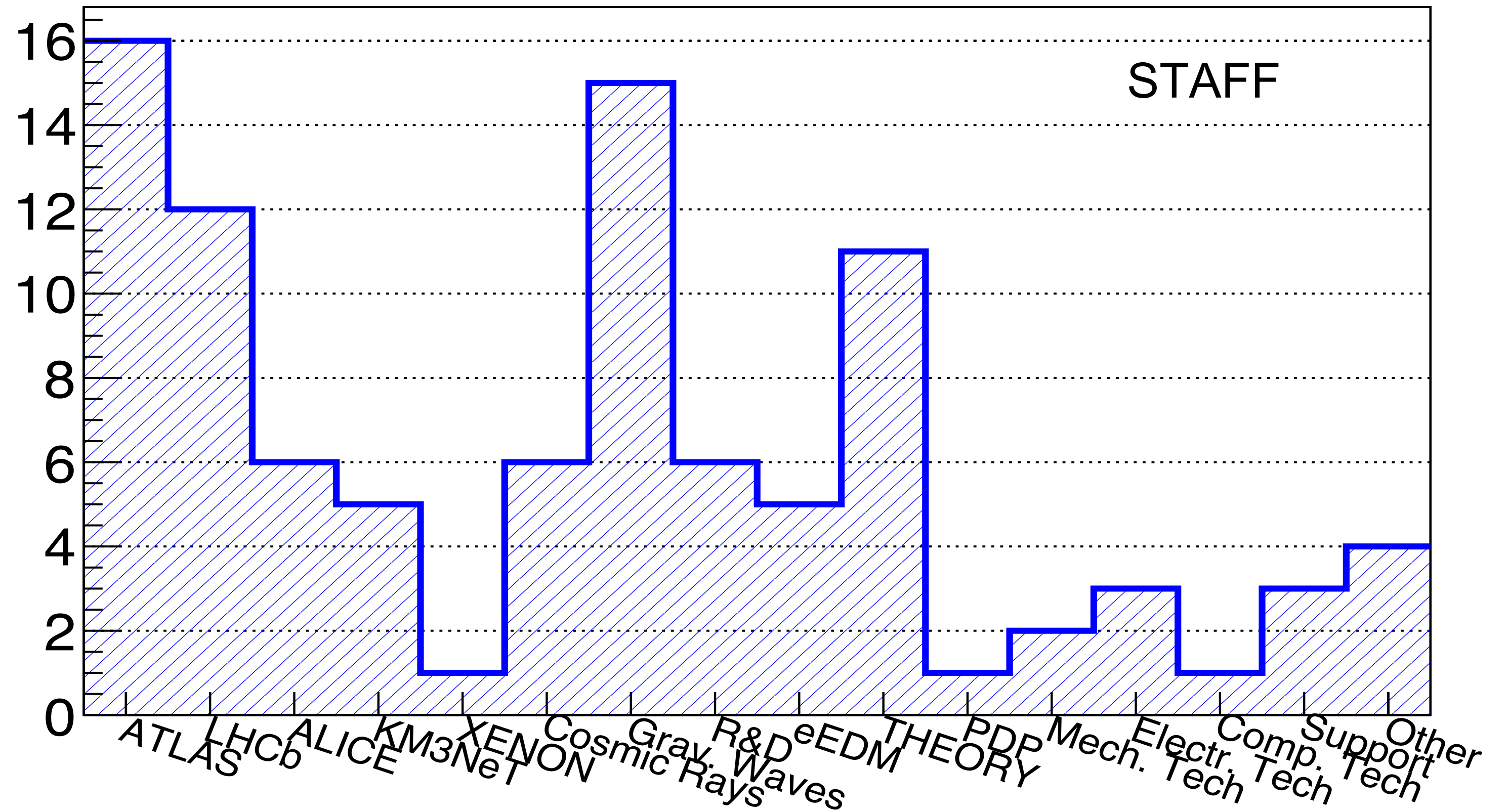
Lepton Collider

Ptolemy

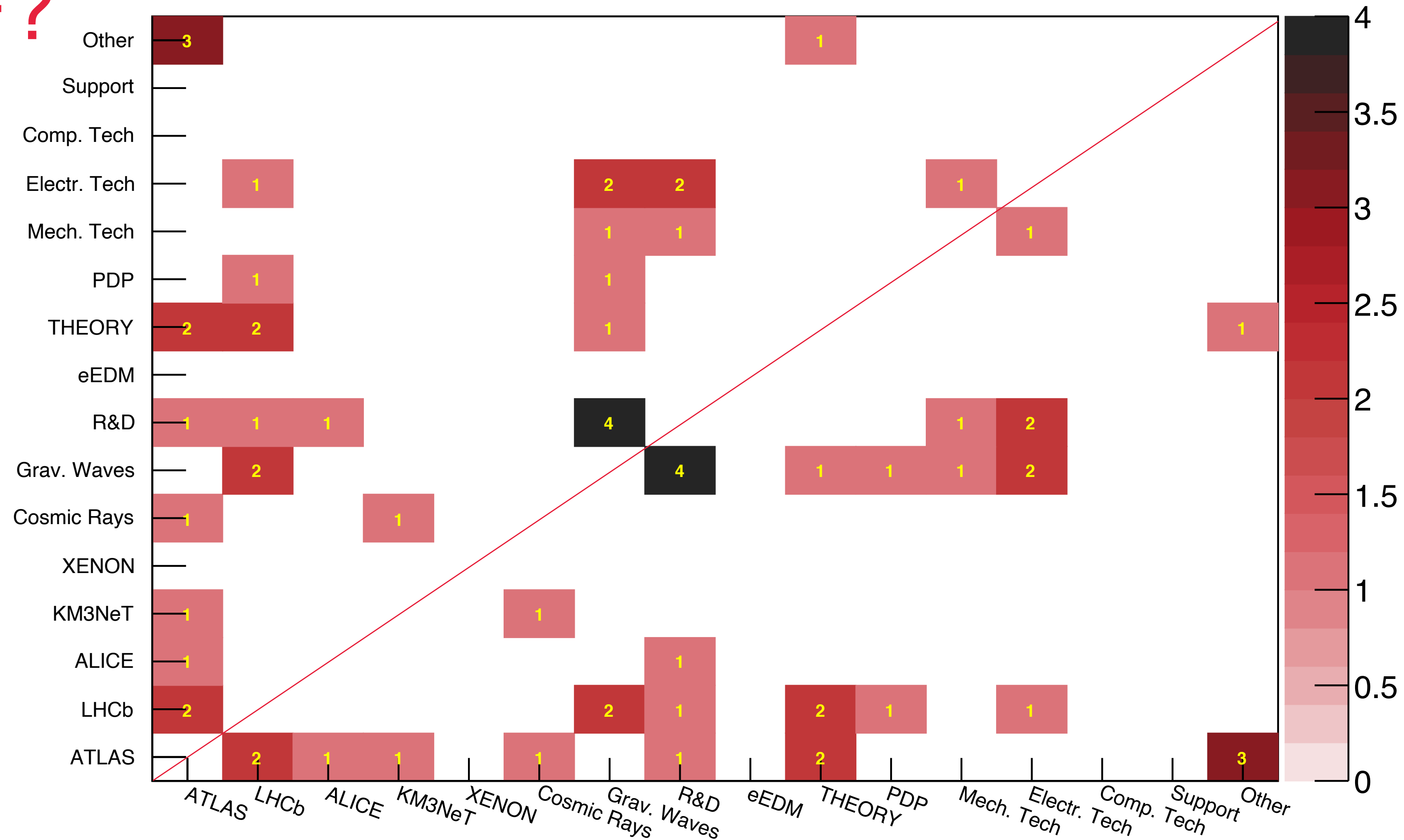
Only mentioned by PhD/PD:

DUNE

HiSPARC



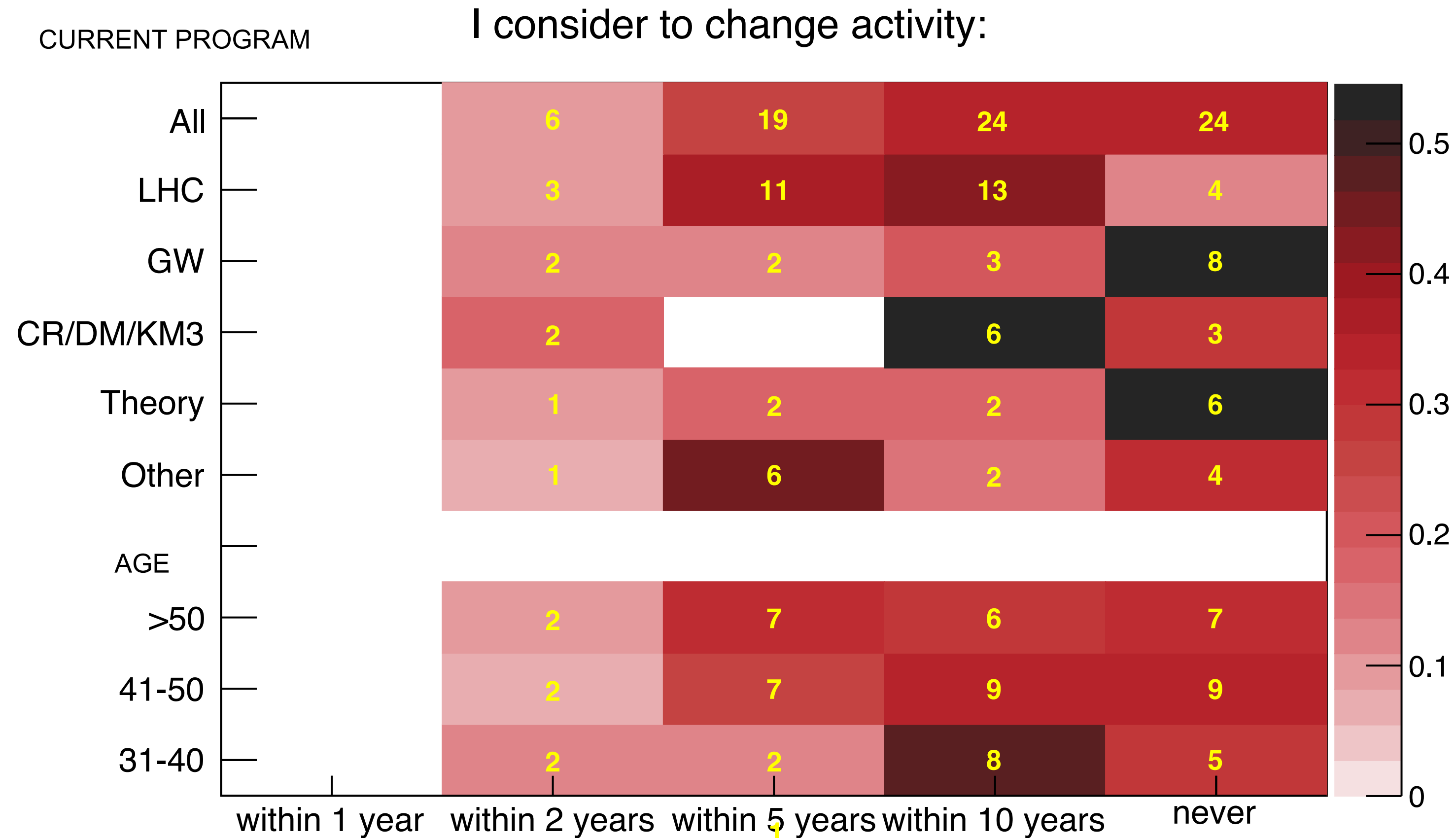
IN WHICH PROGRAM ARE YOU ACTIVE AT NIKHEF?



Note that it was possible to give more than 1 answer. Total number of entries: 97
 → People marked several programs

YOUR (AND MY) FUTURE PLANS

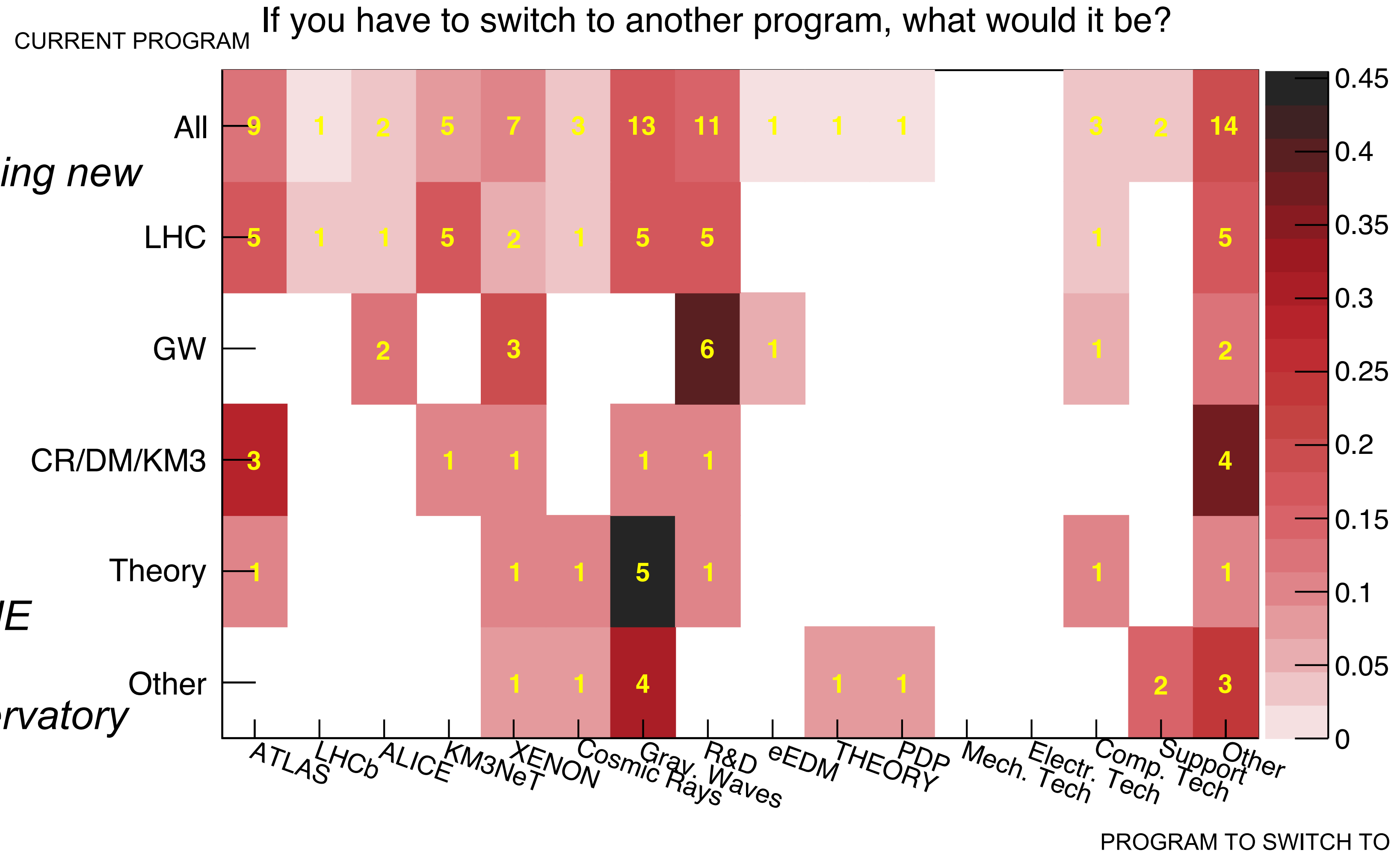
In this and the next plots, the color coding indicates the percentage of the people in the horizontal “category” responded the answer mentioned on the x-axis. The yellow numbers represent the absolute number of responses



We are not considering to change programs soon. The responses differ somewhat based on the program

SUPPOSE YOU HAVE TO SWITCH TO A SCIENCE PROGRAM THAT YOU ARE NOT INVOLVED IN AT THIS MOMENT. WHICH ONE WILL THAT BE (ONE ANSWER POSSIBLE)

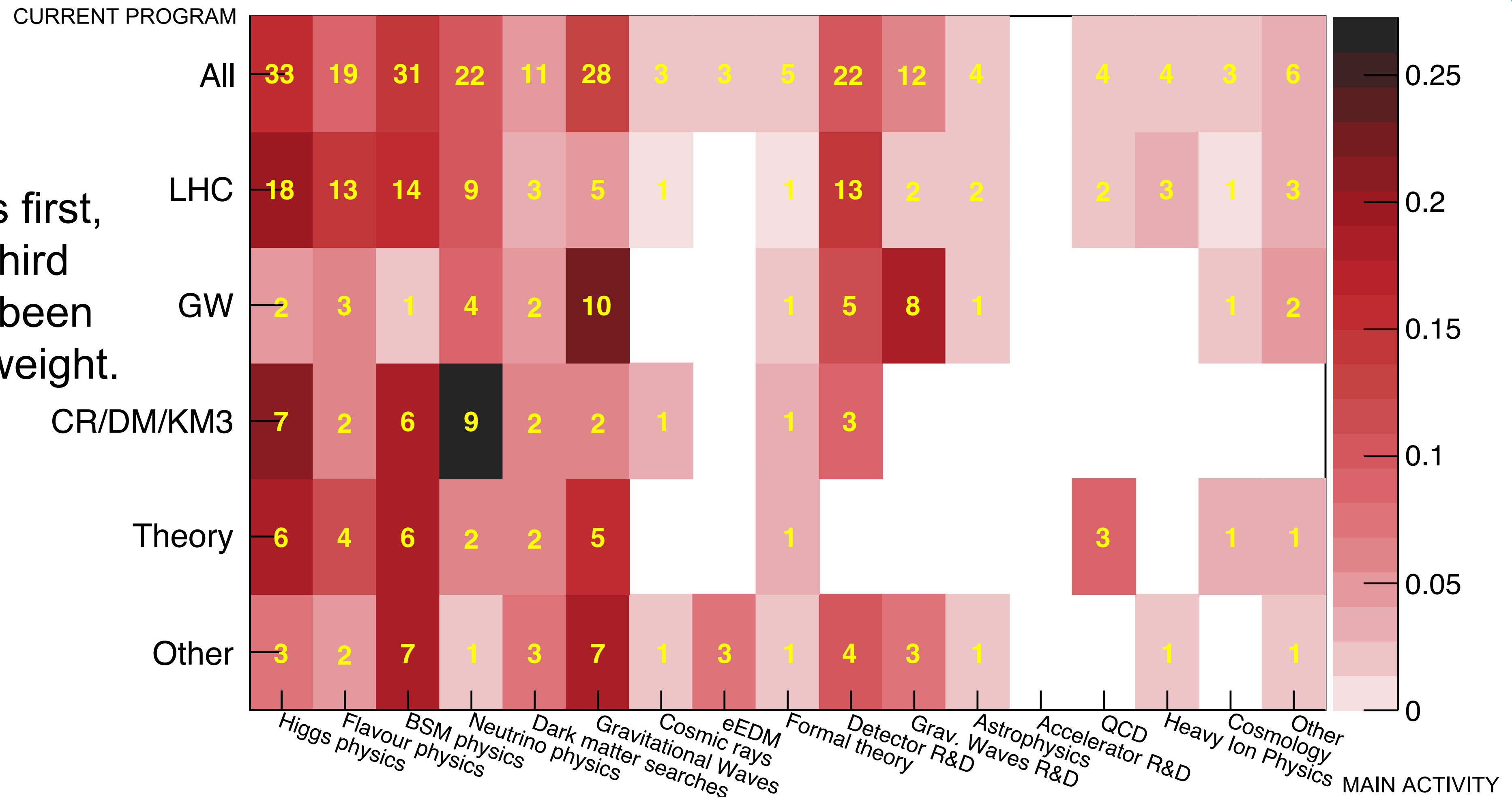
Other options mentioned:
 None of the above/something new
 APP
 Ptolemy
 Neutrino oscillation expts
 Precision expts
 Linear collider/ee collider
 Dune
 Axion searches
 Neutrino properties
 Neutrinos -> GRAND/DUNE
 CMS
 Next gen. cosmic ray observatory
 Project management



WHAT SHOULD NIKHEF BE DOING NOW?

WHAT WE THINK NIKHEF SHOULD BE DOING

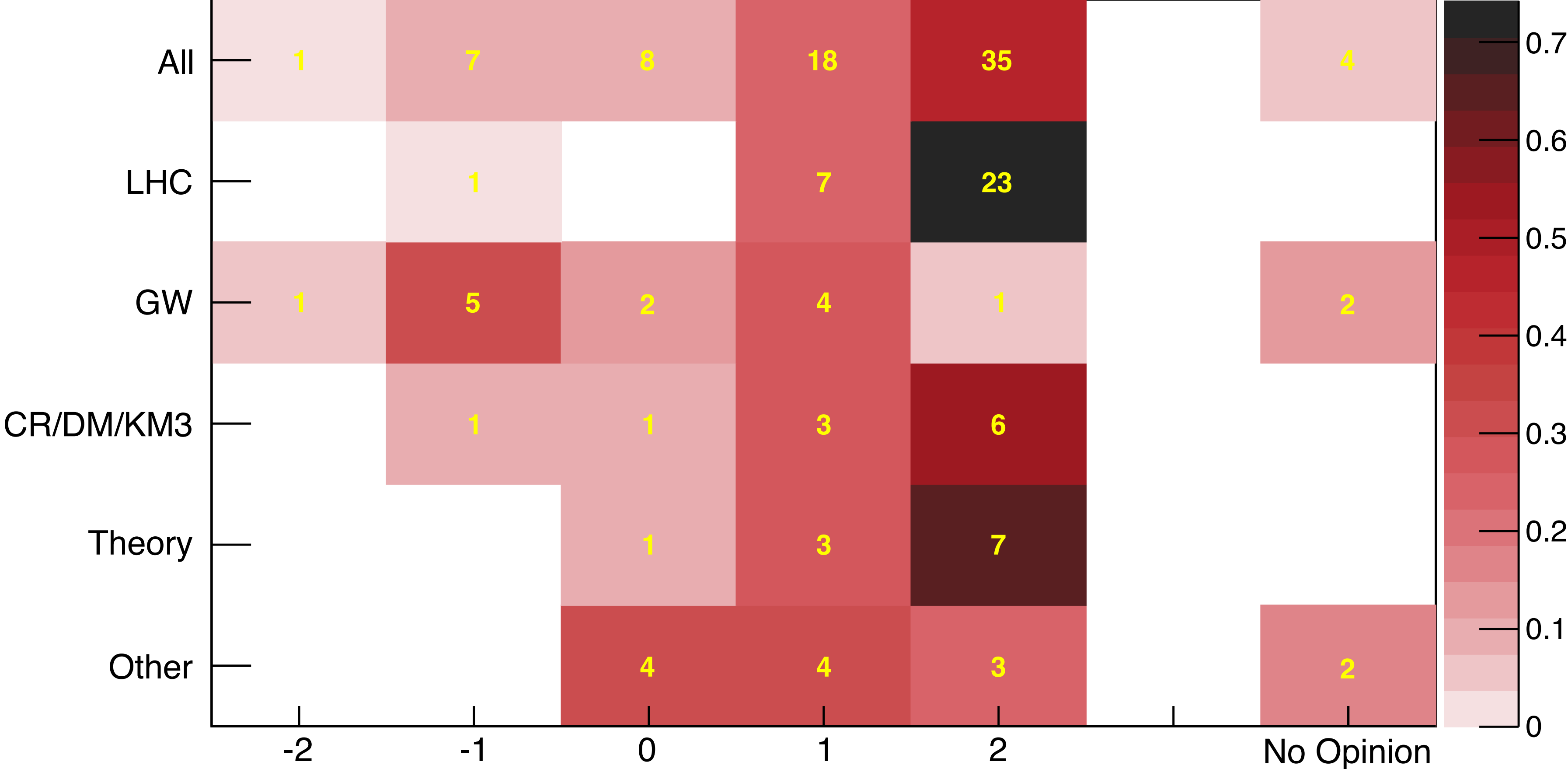
All programs mentioned as first, second and third priority have been given equal weight.



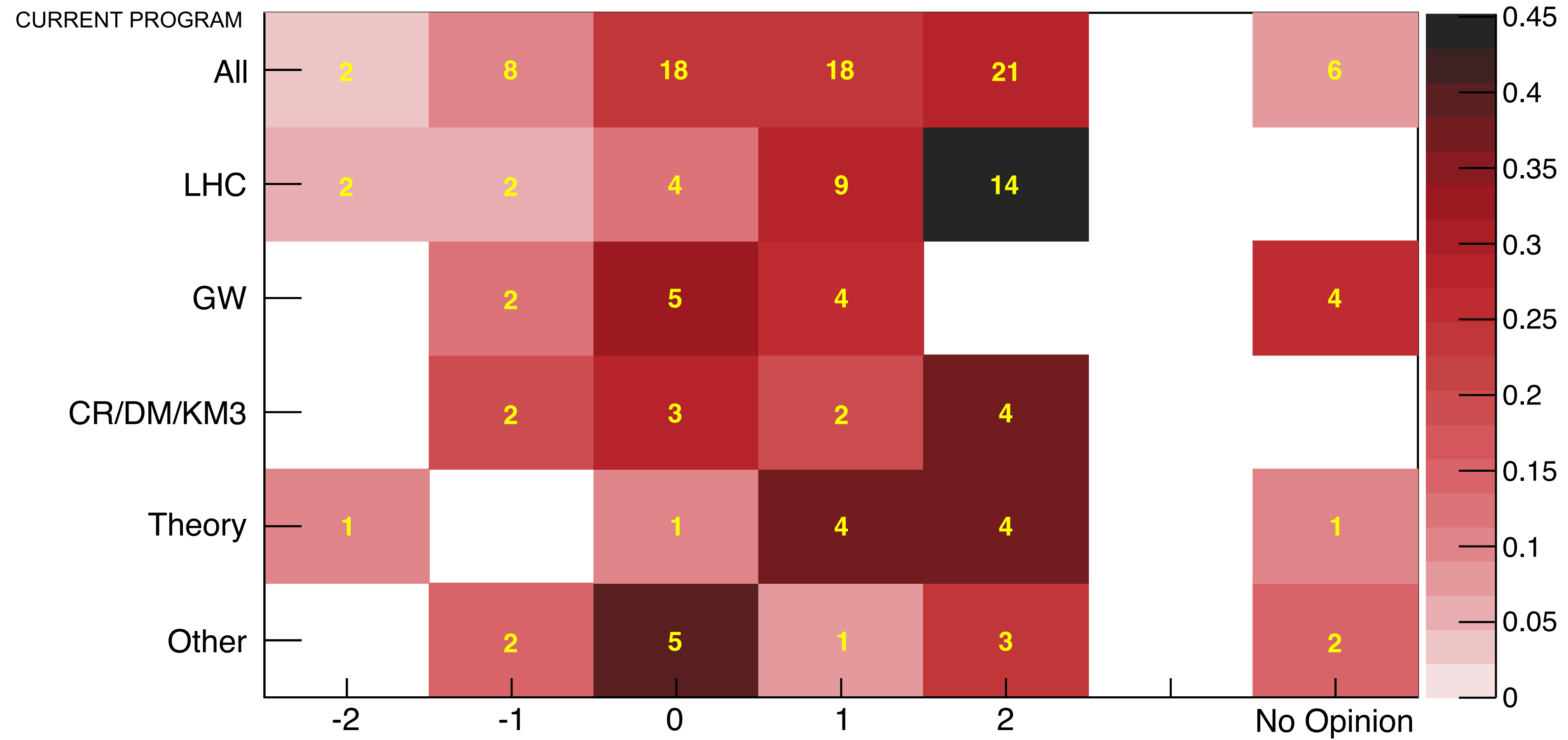
WHAT SHOULD NIKHEF LOOK LIKE IN 2025?

IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO HAVE ACCELERATOR BASED PHYSICS (LHC,ILC,FCC) AS ITS MAIN ACTIVITY

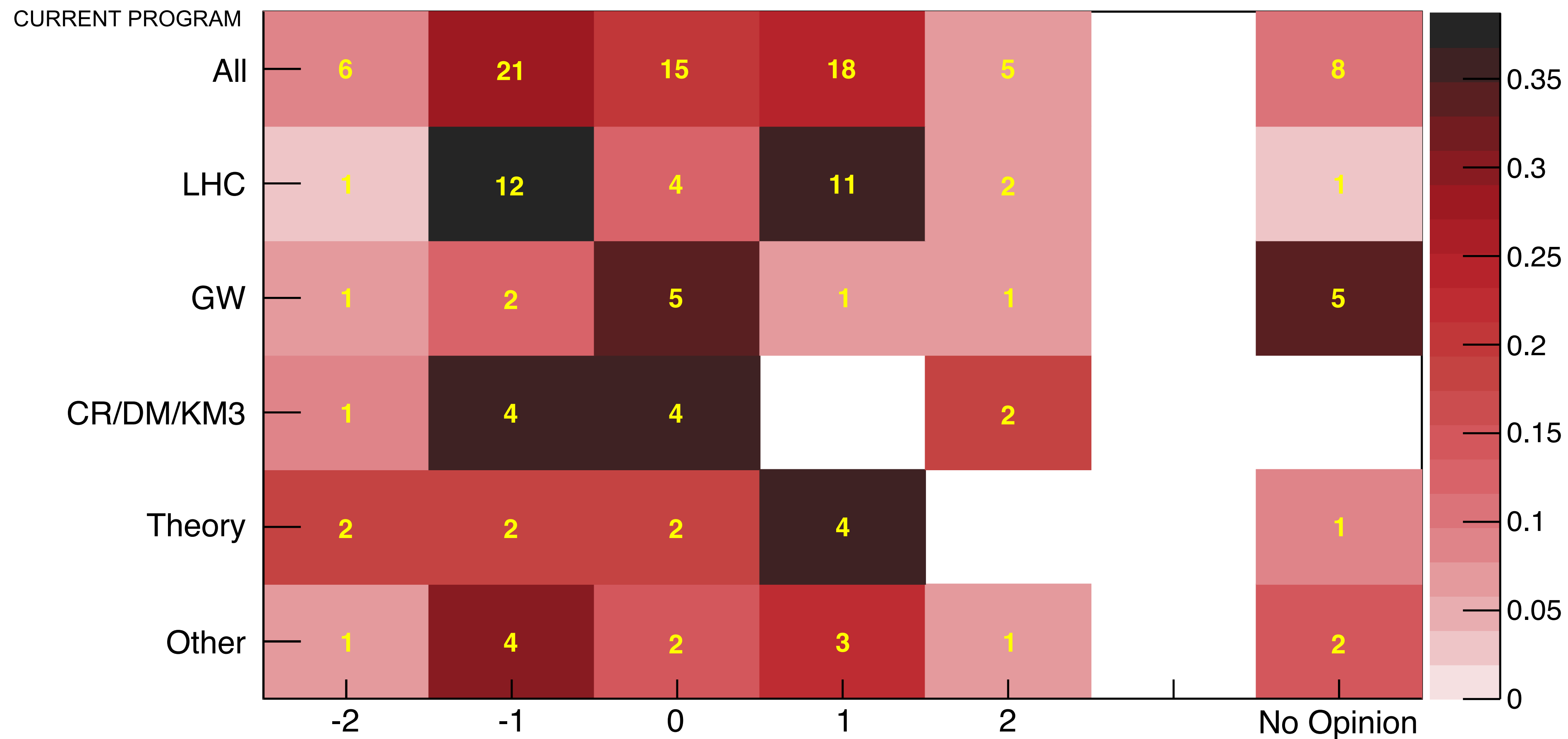
CURRENT PROGRAM



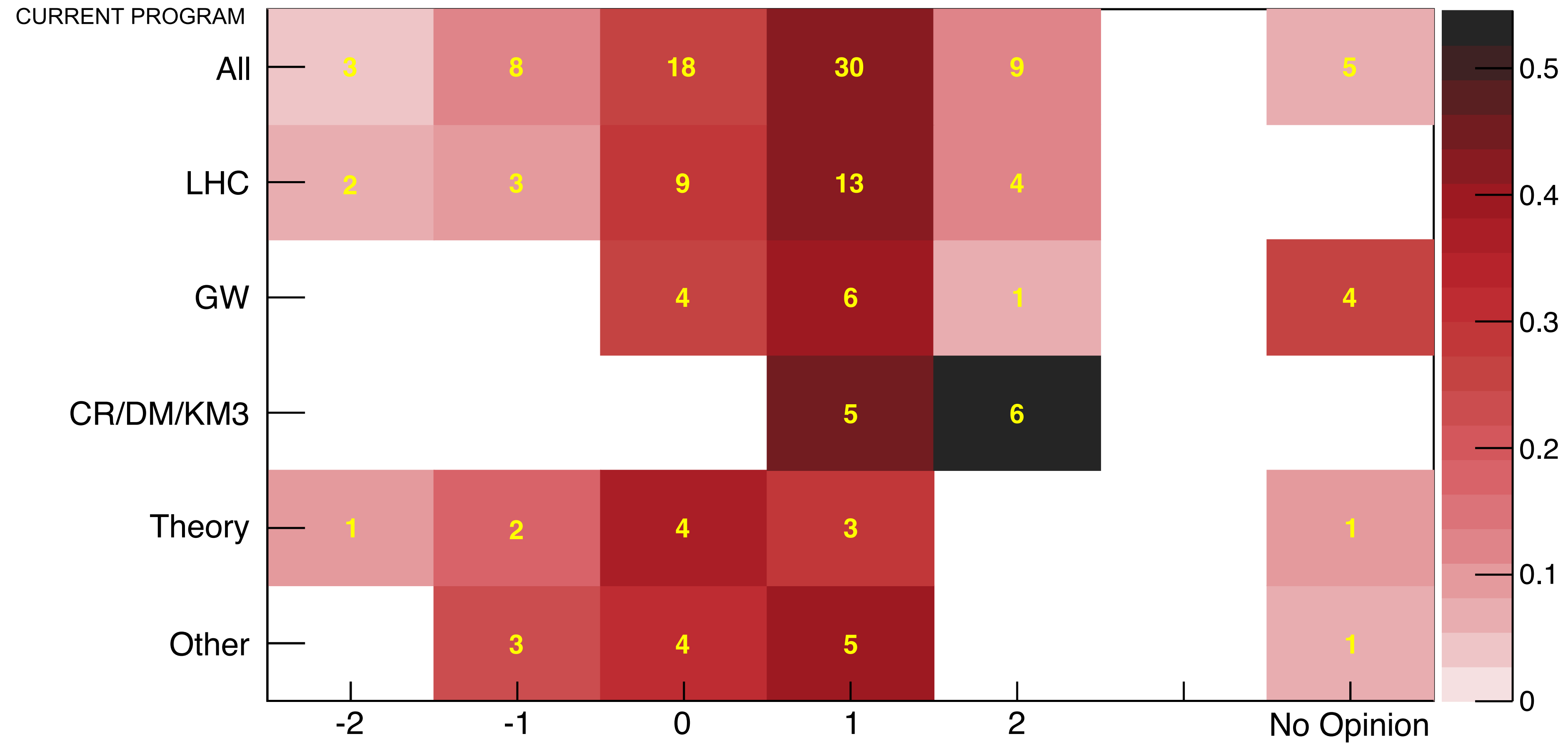
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO HAVE A R&D PROGRAM FOR THE FCC OR ILC DETECTORS.



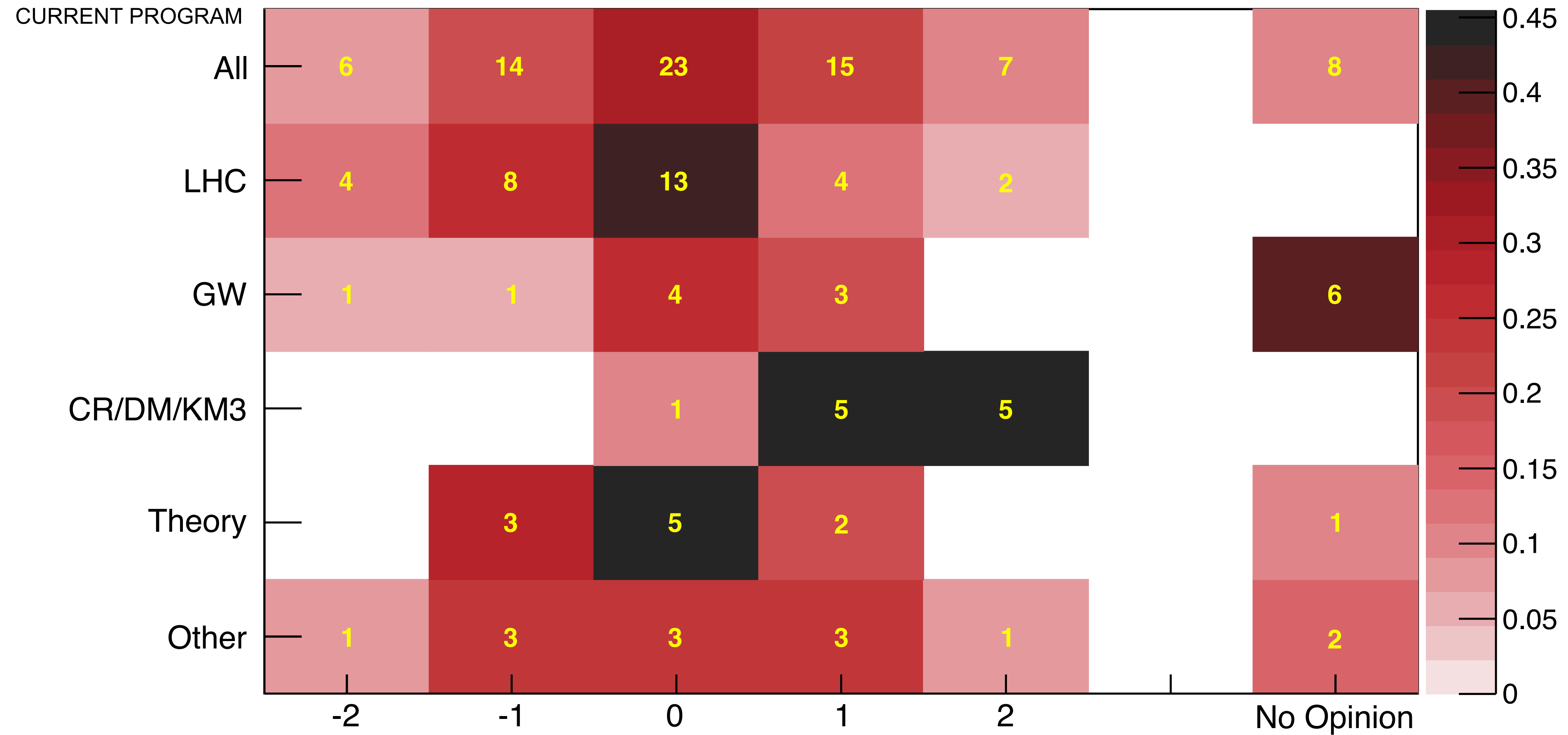
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO HAVE A PROGRAM ON THE DEVELOPMENT OF A MUON COLLIDER.



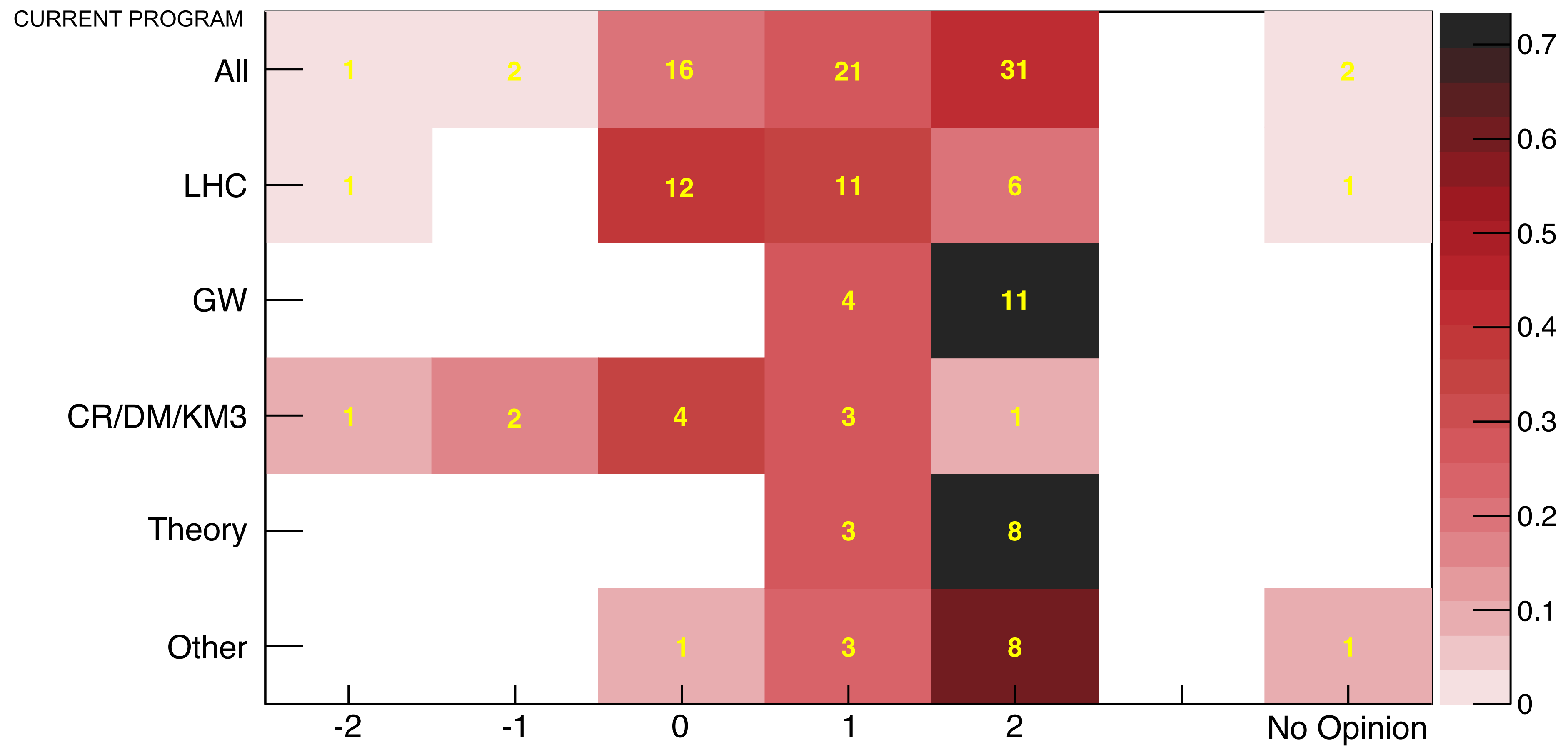
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO BE ACTIVE IN ACCELERATOR OR REACTOR BASED NEUTRINO EXPERIMENTS (EG DUNE)



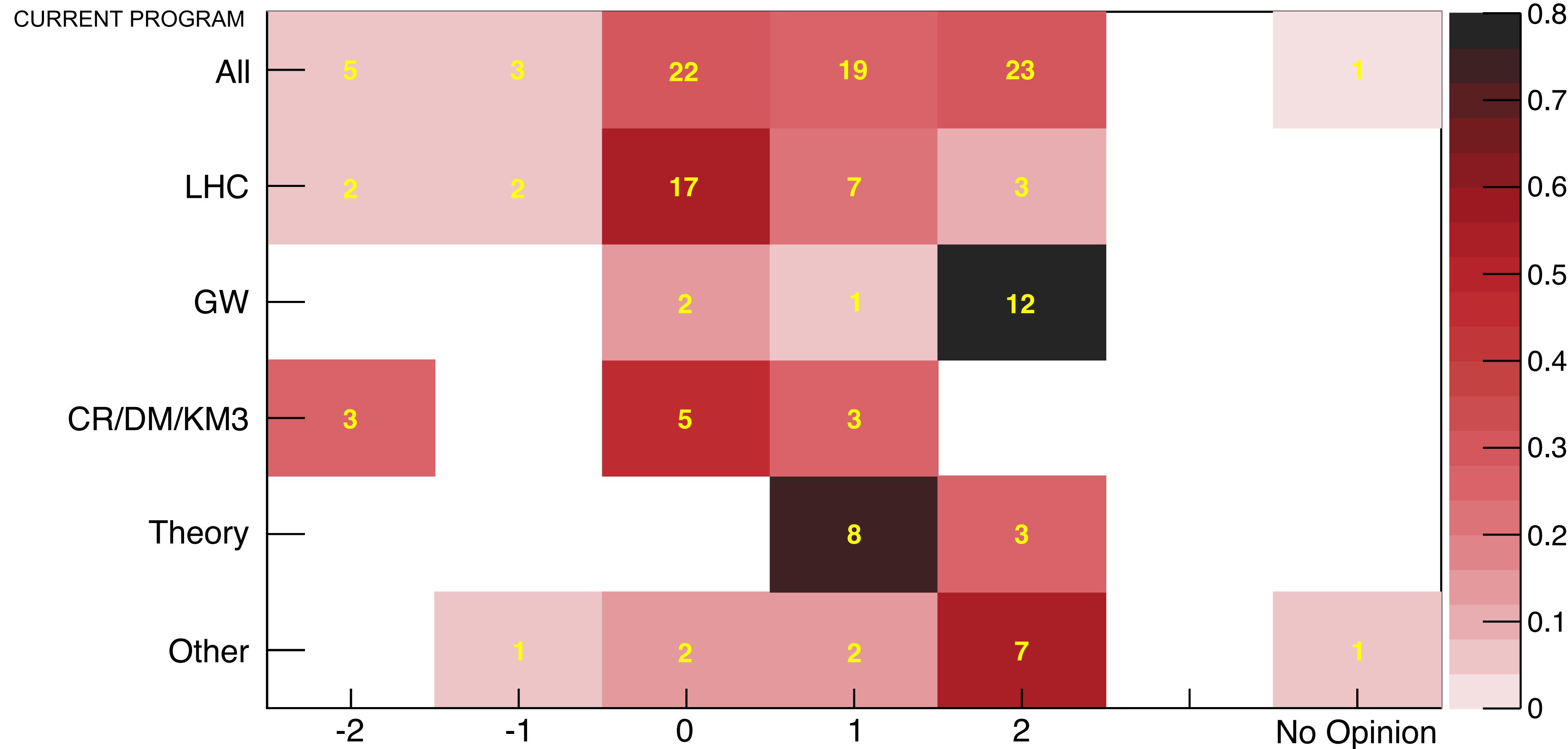
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO BE ACTIVE IN NEW EXPERIMENTS WITH ASTROPHYSICAL NEUTRINOS (EG PTOLEMY, GRAND).



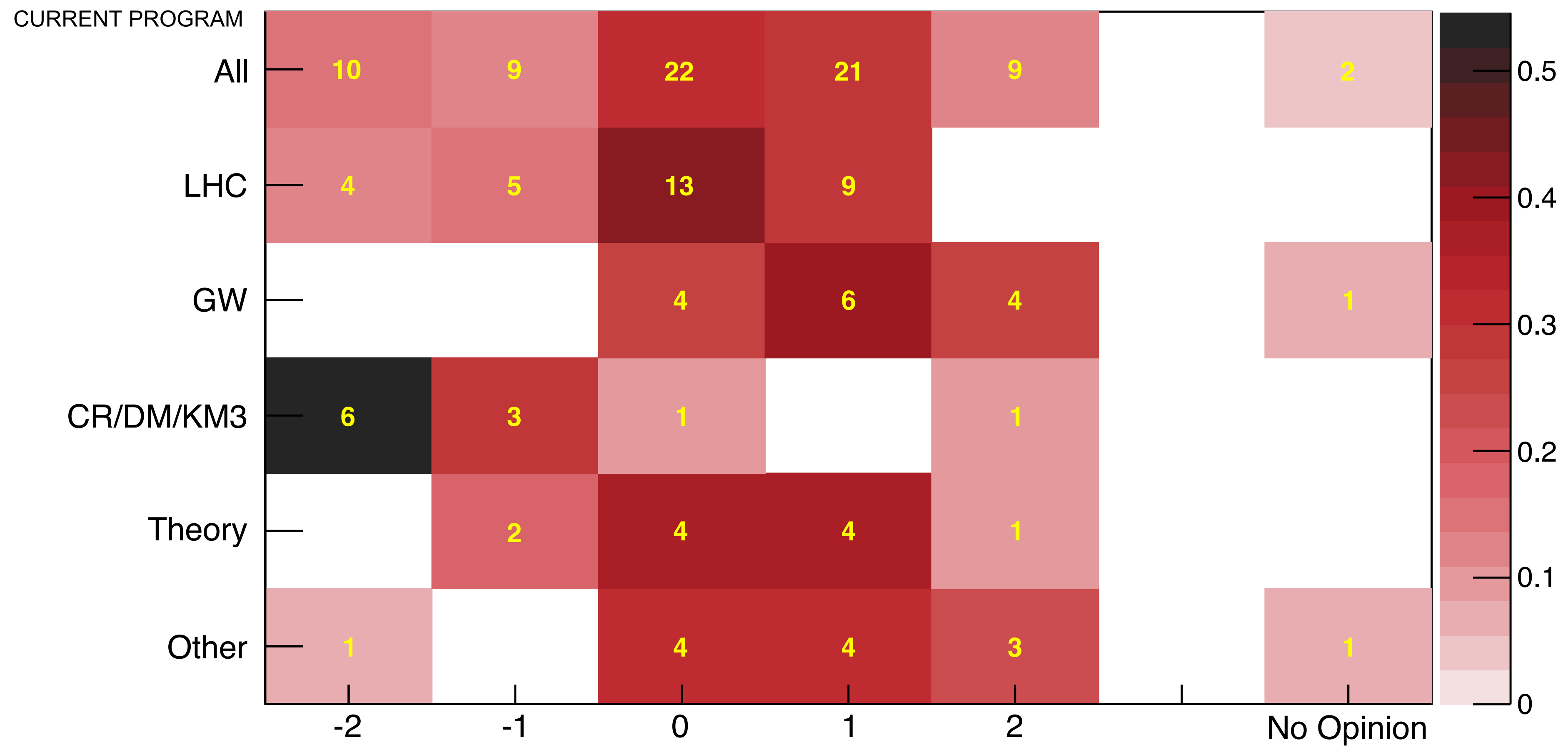
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE TO CONGRATULATE NIKHEF WITH THE EINSTEIN TELESCOPE TO BE BUILT IN THE SOUTHERN PART OF THE NETHERLANDS



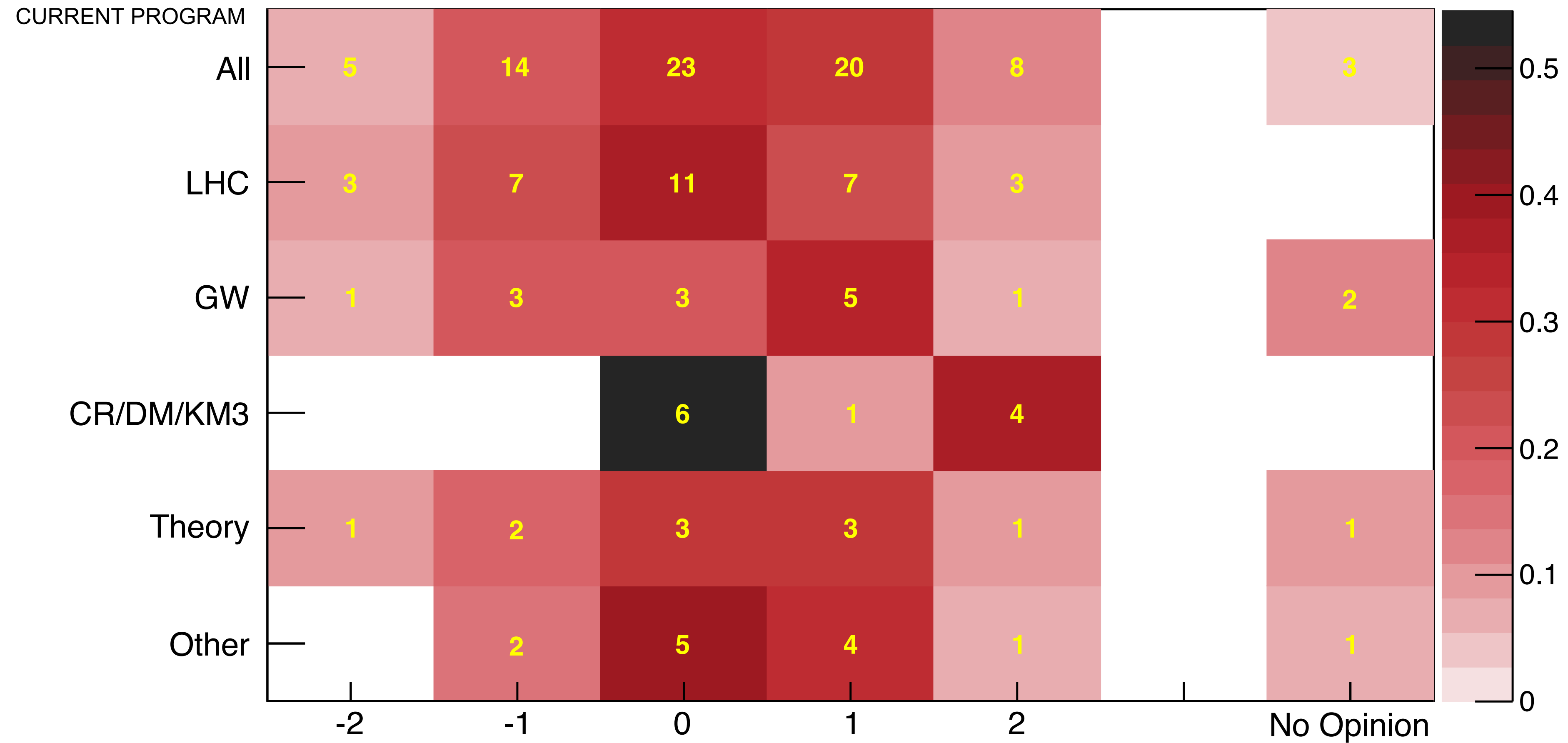
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO BE A LEADING INTERNATIONAL INSTITUTE IN GW RESEARCH



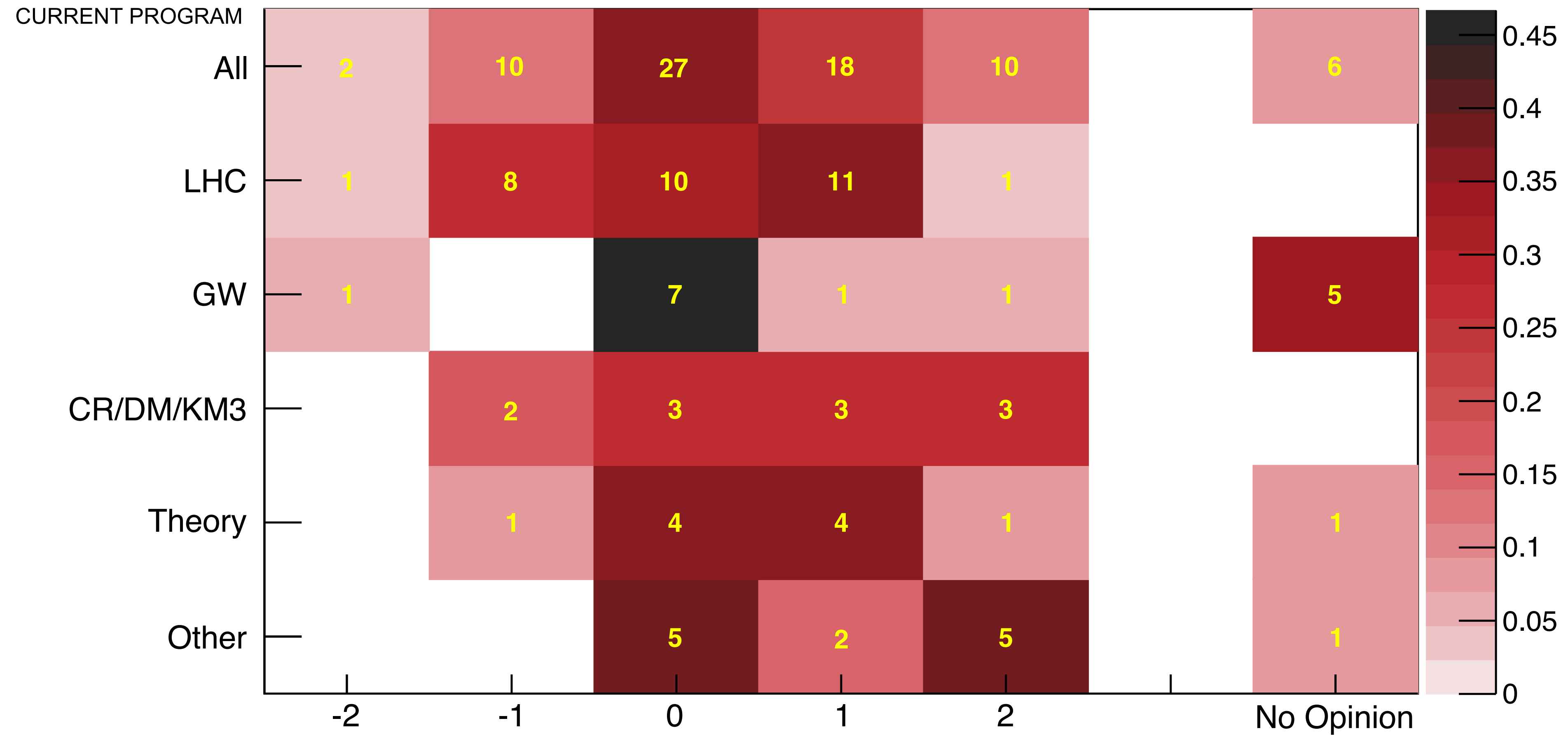
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO BE A VISIBLE PARTNER IN LISA.



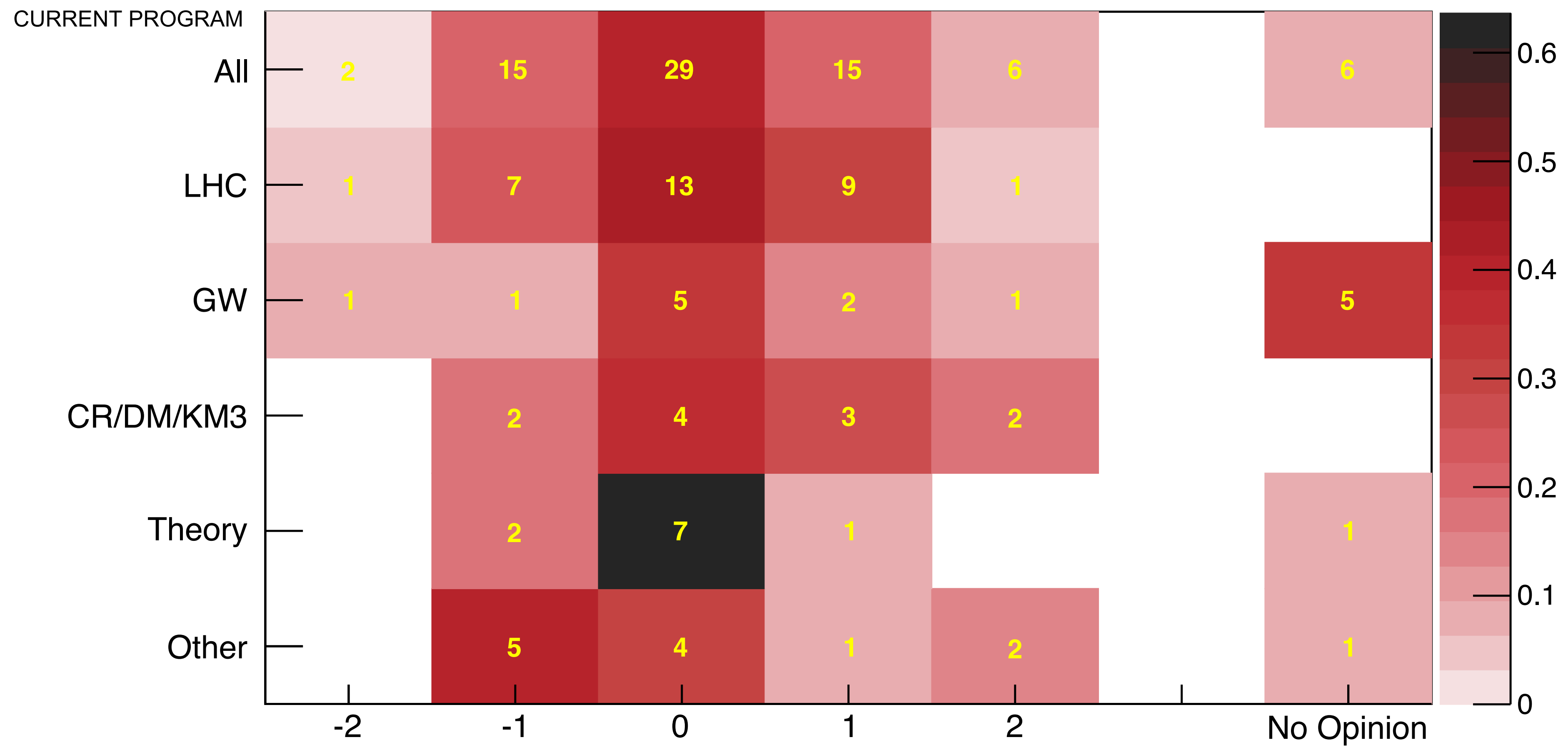
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF NIKHEF TO EXPAND ITS INVOLVEMENT IN DIRECT DETECTION OF DARK MATTER (DARWIN).



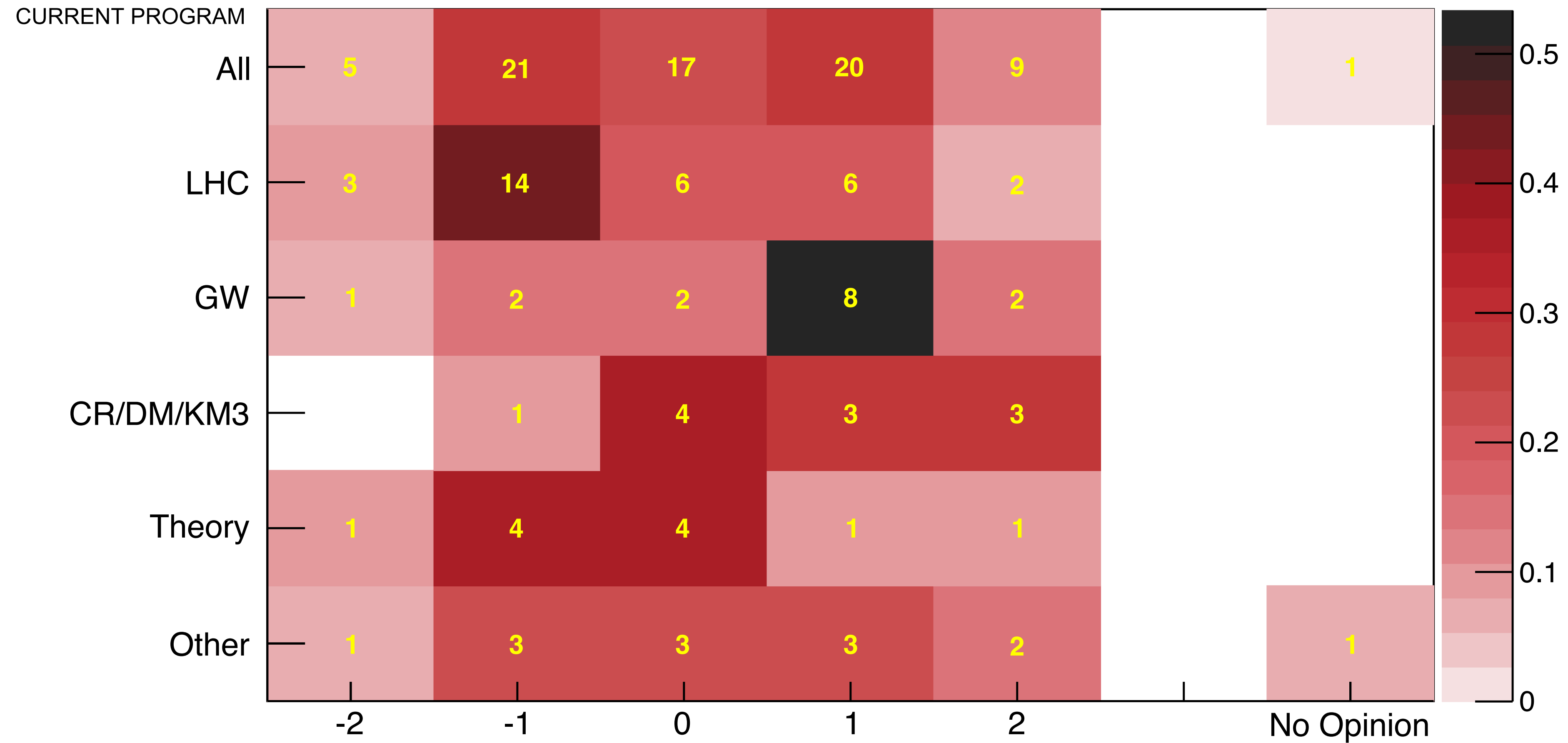
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO EXPAND THE INDIRECT SEARCHES FOR BSM PHYSICS THROUGH LOW ENERGY EXPERIMENTS.



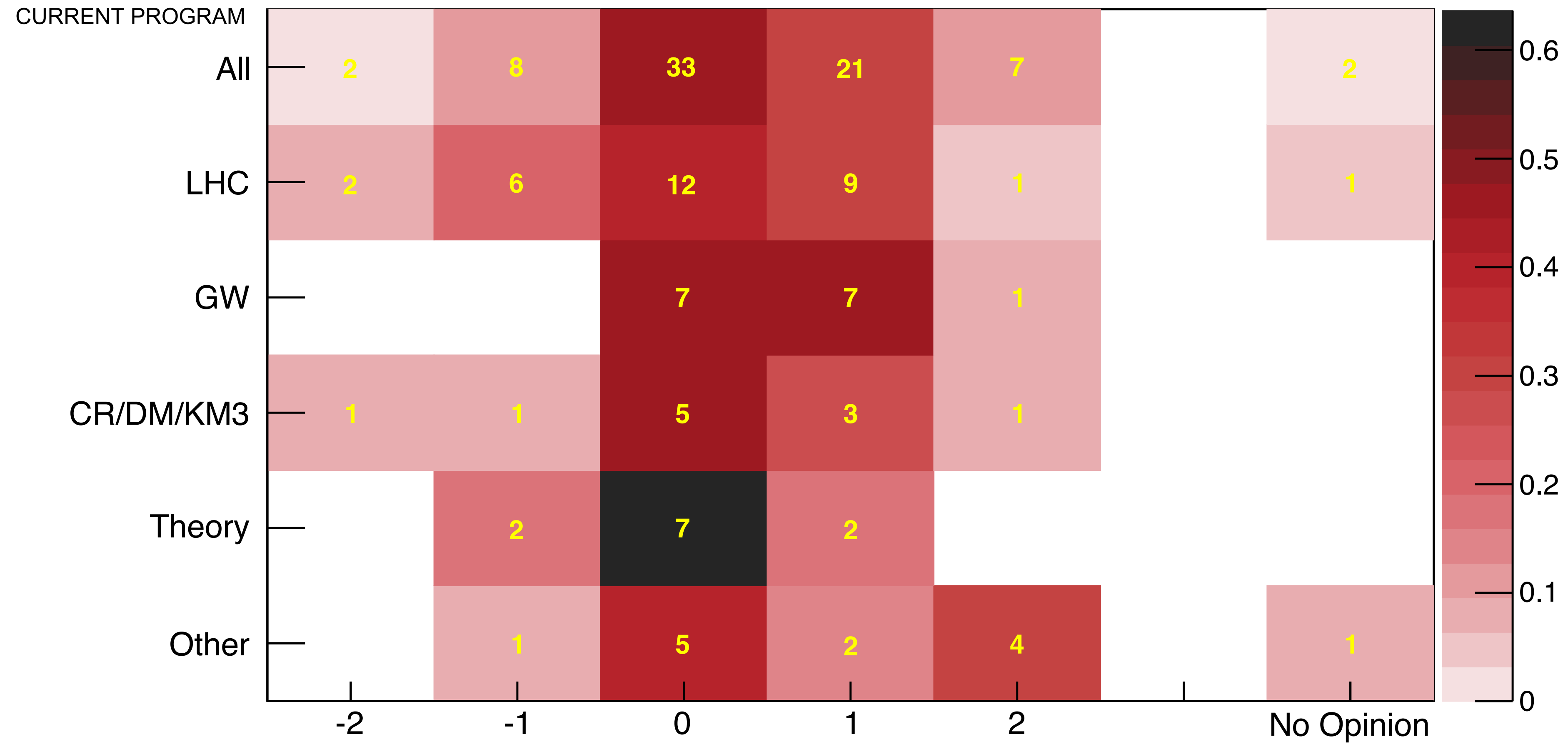
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO EXPAND THE INDIRECT SEARCHES FOR BSM PHYSICS THROUGH ASTROPHYSICAL EXPERIMENTS.



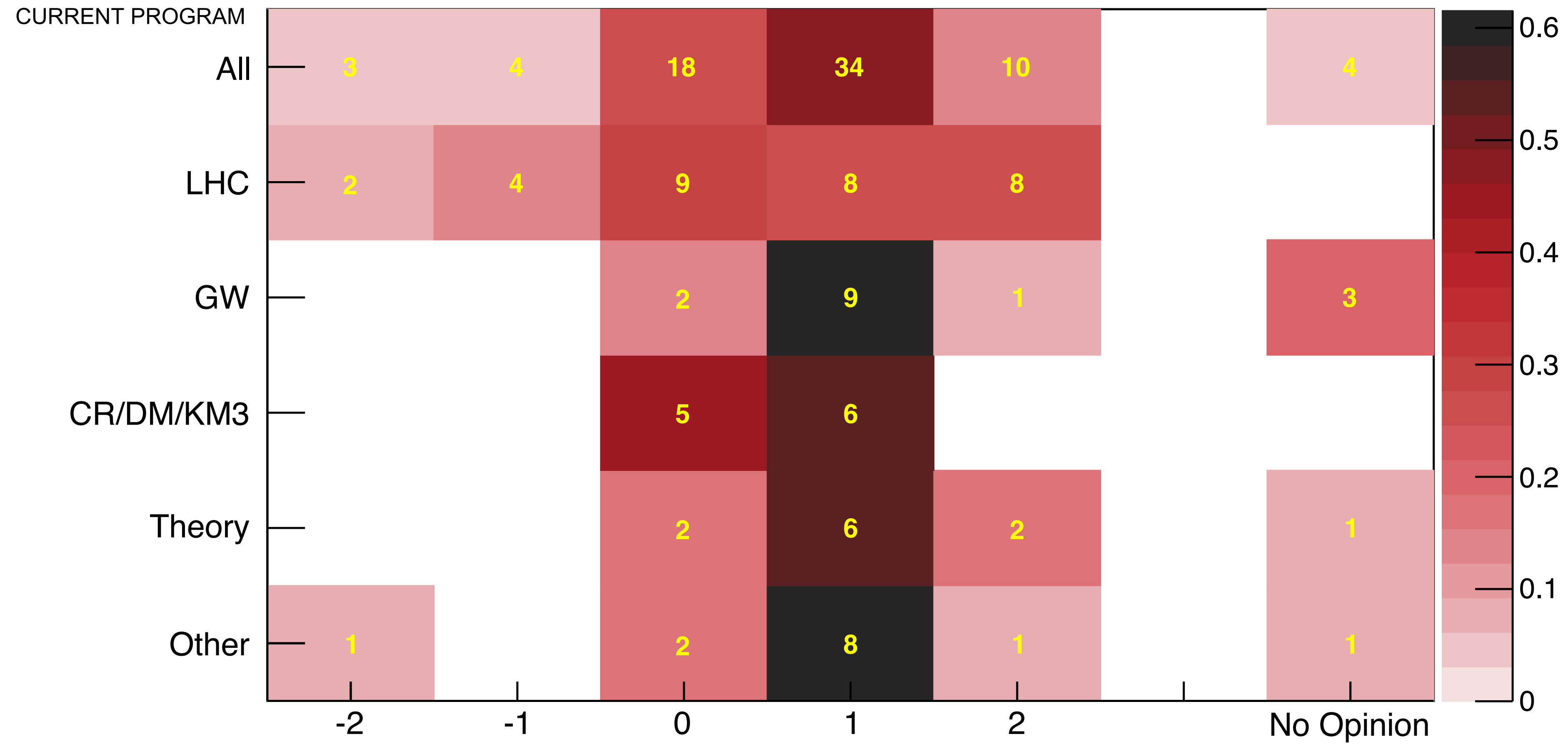
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO BE INVOLVED IN MORE EXPERIMENTAL PROGRAMS IN ASTROPARTICLE PHYSICS



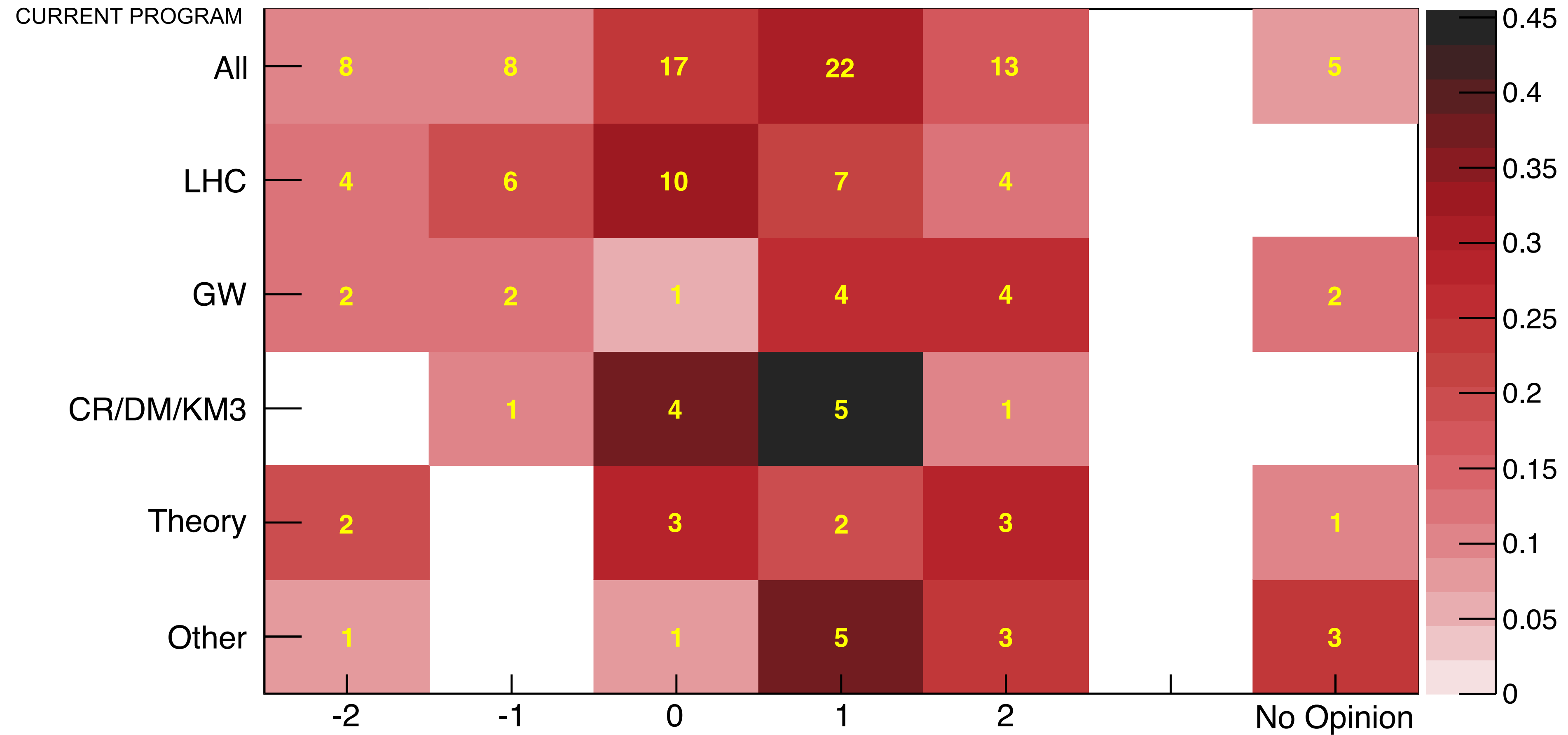
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO HAVE A MUCH CLOSER CONNECTION WITH THE ASTRONOMY COMMUNITY.



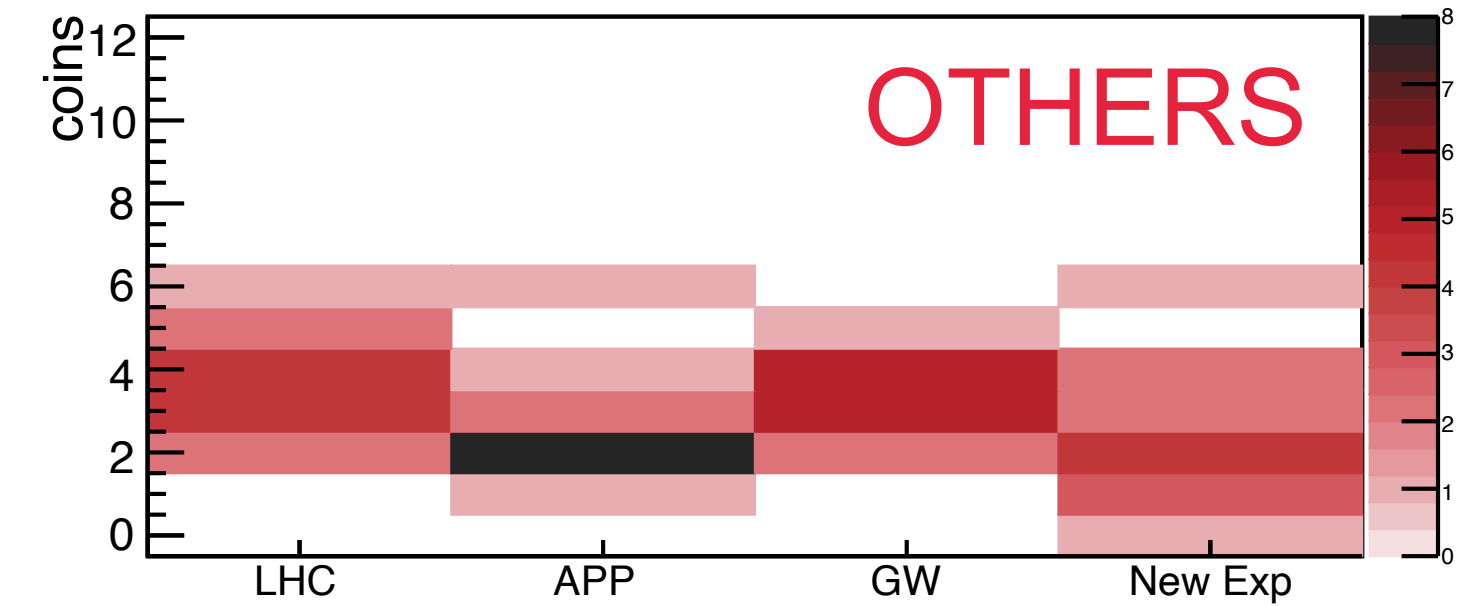
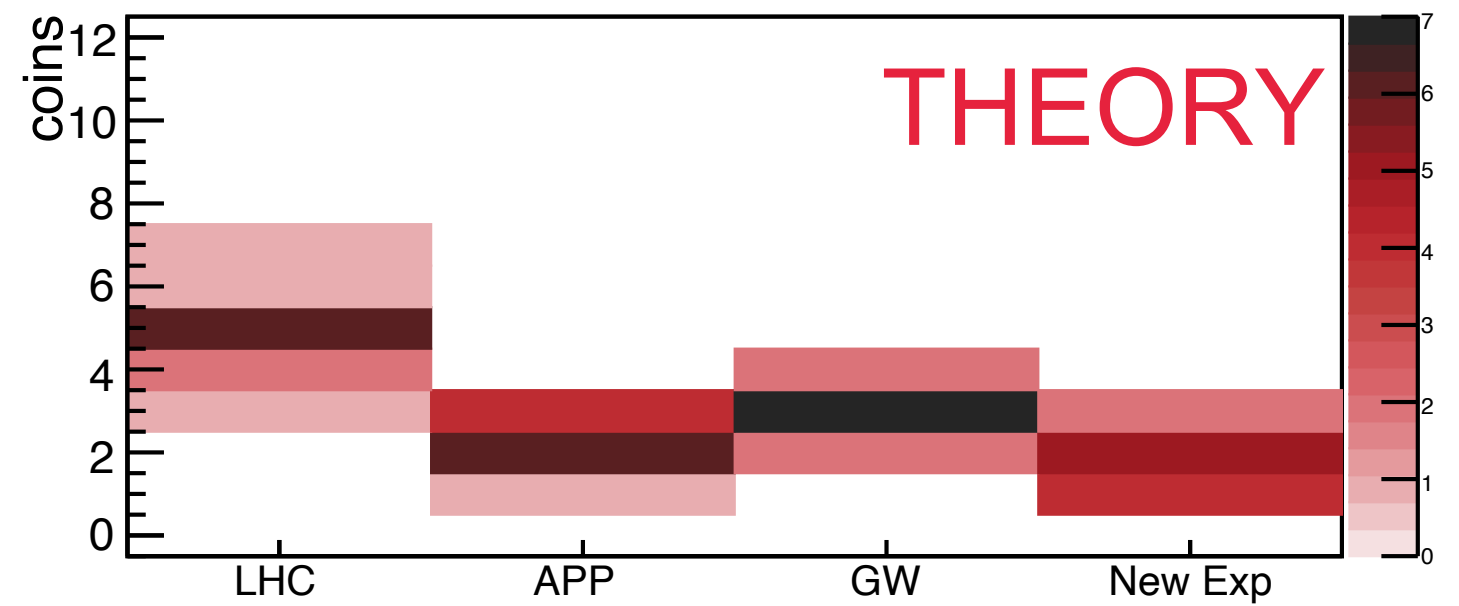
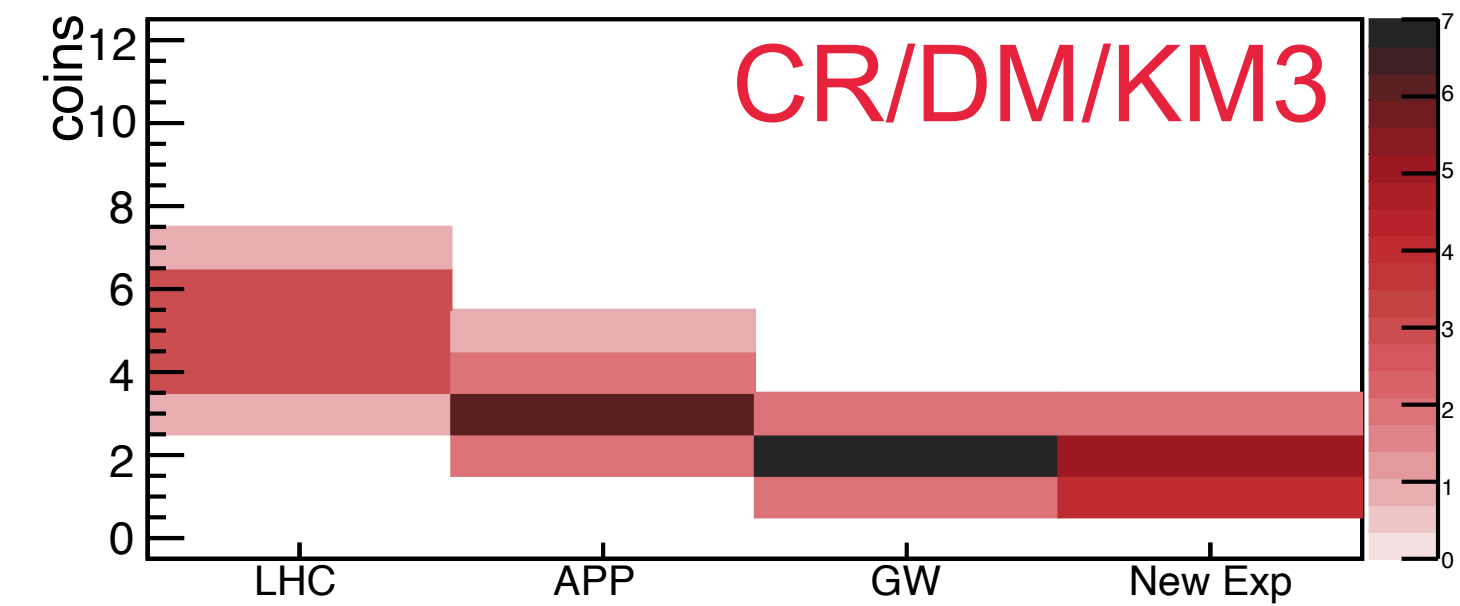
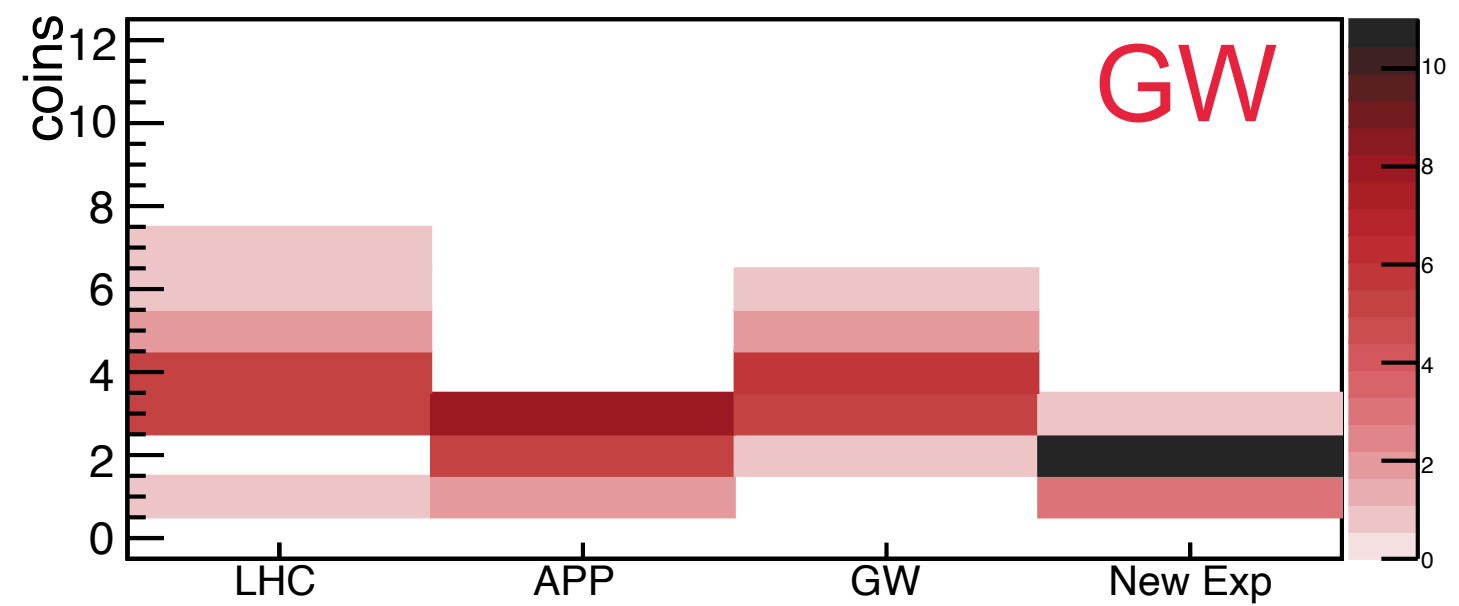
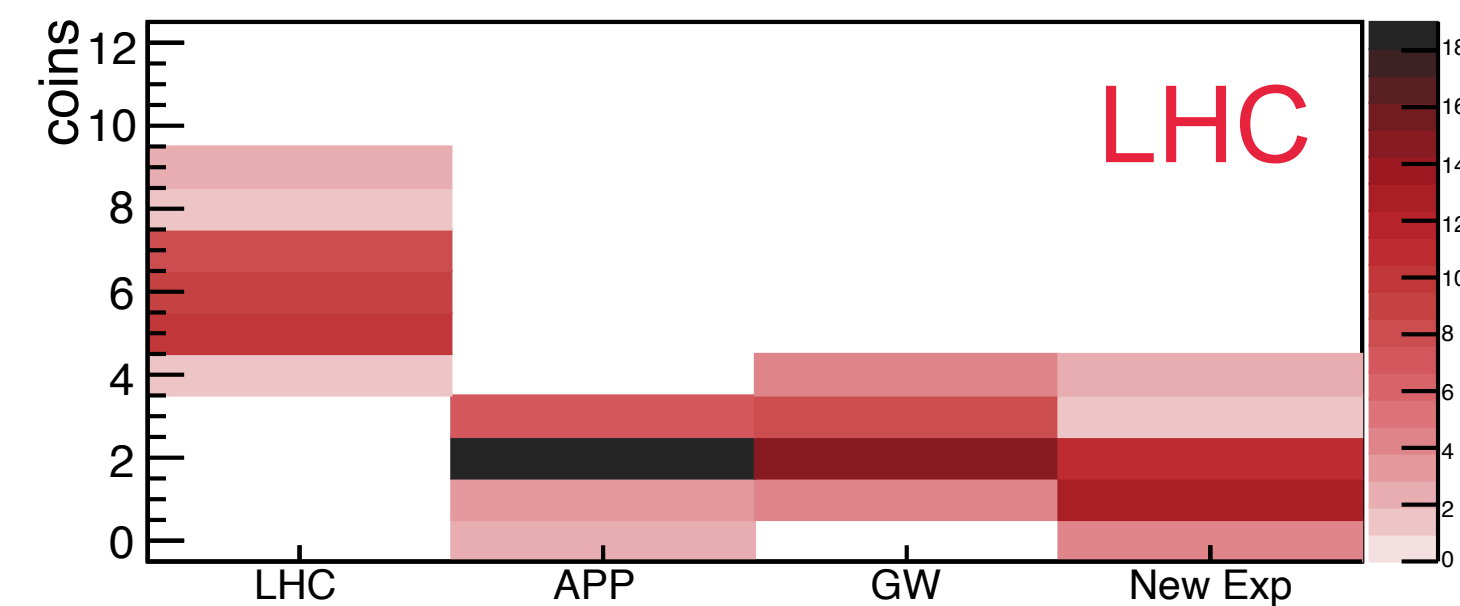
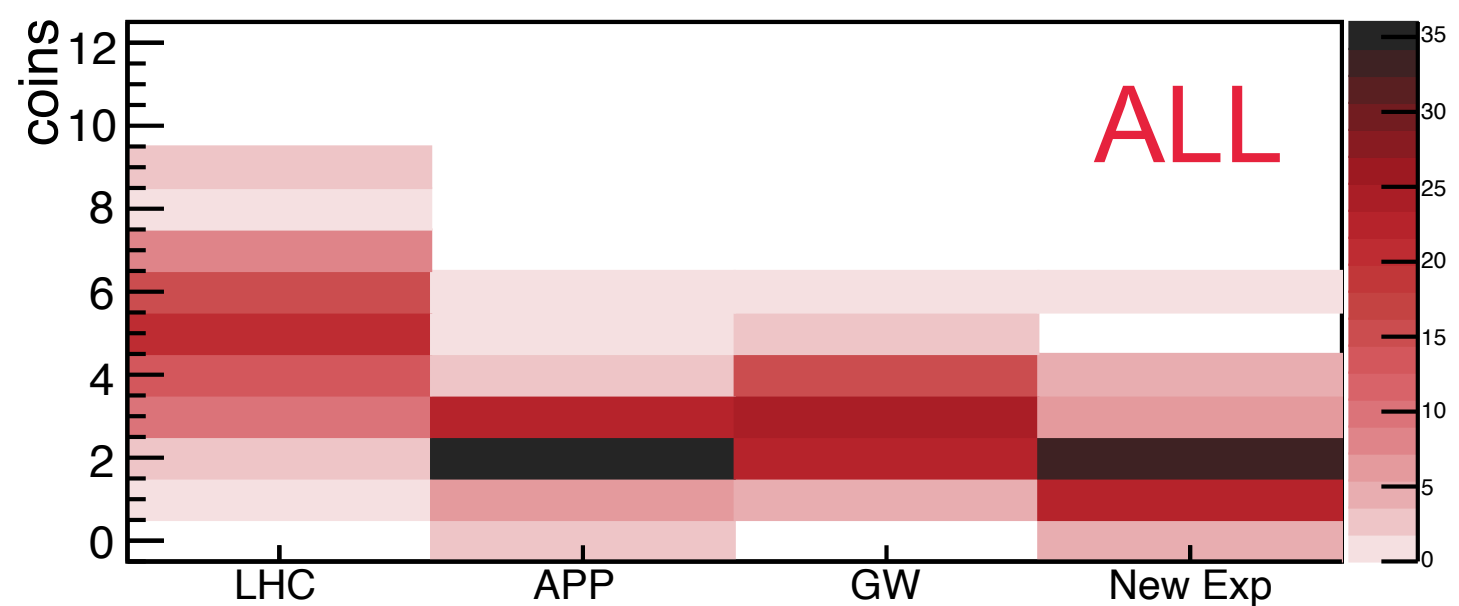
IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO DEVELOP DATA SCIENCE FOR HEP/APP.



IN 2025, FOR THE BEST OF NIKHEF I WOULD LIKE NIKHEF TO BE INVOLVED IN THE DEVELOPMENT OF GREEN TECHNOLOGIES FOR HEP



A PROPER DISTRIBUTION OF SCIENTIFIC STAFF (WPM/V) IN THE EXPERIMENTAL PROGRAM OF NIKHEF IN 2025 IS...



ITEMS YOU LIKE TO BRING UP IN THE VISTA DISCUSSION

PARTICIPATION AND THE VISTA PROCEDURE

- participation of the whole Nikhef community in the decision process about new research programs
- These strategy sessions need proper follow up to move forward. There should be a report with a list of things to do with a timeline and a responsible person. At the yearly jamboree and the June spiegelmoment (or another June occasion) an update should be given
- keep it open for new ideas
- The questions in this survey suggest there will be an open discussion and room for steering by the community. Is this the case - or have the ships already been send out on their missions?
- I would like to understand the view of Nikhef management
- Need for more, open, science strategy discussions to decide on future Nikhef and its activities
- I am not sure that a set of questions like these ones will lead to a good strategy. Many options cannot be chosen in such a format. A better option could be to ask for short (1-2 page) ""white papers"" to outline what people intend to do in the next decade.
- No space for interdisciplinary / inter-""werkgroepen"" activities
- "The questionnaire is very experimental, what about the Nikhef theory ?

INTERDISCIPLINARY ACTIVITIES

- The envisaged cooperation between experiments and the theory group
- Is the Nikhef theory group interested in cooperation with the Nikhef experiments? How does the theory group see its role?
- How can dual membership of LHC experiment and AP experiment be realized? This could be major attraction to new talent.
- Can we facilitate and stimulate people to work in more than one group? E.g. work for 20% of the time?
- Strengthen the coherence between all activities
- Collaboration between different experiments and different fields
- Cross field research platform

EXPANDING/SHRINKING THE NIKHEF PORTFOLIO

- Risk of scattering, too many experiments
- I believe a healthy mix between accelerator based experiments, gravitational waves and small scale physics would be ideal. I guess that is pretty much what Nikhef does now.
- We should keep a broad portfolio of scientific topics and activities. Monoculture does not work, for sure not in science, but also not in other areas like agriculture and forest management. The beauty of science is to find cross connections between different sub-fields. This is the strength of an organization like Nikhef, to connect theory and experiment, to connect the physics of the smallest scales with the physics of the Universe.
- We have to stay leading in big physics projects with highest priority CERN and second priority gravitational waves.
- Assessment of accelerator based particle physics portfolio: LHC physics topics, e^+e^- , accelerator neutrino physics. Nikhef as a multi-messenger APP stronghold, with an appropriate diversity of messengers.
- Consider expanding the portfolio in the direction of some smaller scale particle physics experiments at CERN (AD experiments, rare decay experiments)?
- Strategy to come to a selection of a limited number of topics, which then are excellently supported.
- Within the most pressing discussions on LHC and GW, let's not forget outreach (and in particular Hisparc). Either keep or stop the program are possible ways to go but we should have a clear vision of what is the place of outreach and, based on that, take decisions so to focus the reasonably limited man power and resources.
- "What would be the main type of research post-LHC pre-next-collider? What expertise does Nikhef already have and with that, where could it best contribute?"

GW WORRIES AND OPPORTUNITIES

- When discussing the Einstein Telescope project, we often focus on the large scale infrastructure that has to be built. Besides this obvious point, the research into advanced optics, squeezed light, vibration control, feedback loops and many related areas is essential. Already now, we can (and in my opinion should) strengthen our involvement on these topics, where a lot of expertise is available outside the traditional particle-physics scope. By strengthening these topics and organising them within Nikhef, we can give a great push to the field, and make sure we are involved in the R&D for future gravitational wave telescopes also if they are built elsewhere. This can happen to some degree at ET Pathfinder in Maastricht, but now is a great opportunity to form a cohesive program involving also the other university partners.
- Is gravitational waves growing over our heads?
- 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. To interferometry on the one hand and to calorimetry/tracking on the other hand. Maintaining a wall between these two communities will eventually be detrimental for Nikhef. So I hope this elephant in the room will be addressed. If not: I fear Vista will have missed an opportunity.
- Example in this questionnaire: why is 'GW R&D' listed explicitly and thereby not part of 'Detector R&D'? That just underlines the divide
- Finally: gravitational waves are an interesting topic of research, but perhaps more to astronomers than to physicists. We must make sure that Nikhef maintains sufficient room for new non-GW activities, and that we do not transform ourselves to a GW-dominated institute."
- "(Physics) Studies and (small scale) Detector R&D for particle physics in the longer future: ILC, FCC, muon collider. Rebalancing the program thus that GW is using less resources (e.g. nr of staff and workshop projects, money etc.) redirect to the particle physics programme."

SUPPORT (GROUPS)

- Computing should be an integral part of all long term plans; experiments and groups should carefully consider what they need, want and what opportunities might arise.
- The question what the main activities of Nikhef should be is a bit obscure for me; I answered it on the base of the science output. I do not think that for instance the CT/MT/ET/theory group should be the core of the Nikhef activities, but I do think that these ""support"" groups are essential for Nikhef to play an important role within the experiments. So although the experiments are placed at the top, that does not mean that these experiments can be done without the groups that I did NOT rank.
- "Engineering & building future large experiments; how to manage that ? More specific expertise required? Increasing complexity and nr of diciplines; civil, infrastr, big data, QA, financial, softw.- mech- & electr. eng. and exploitation. Manage by researchers, specialized engineers or techn. managers? Setup selected mgmt. teams ? How to learn from experience. Define example preferred Organization model for new experiments (for ET, DUNE, Ptolemy, ...)? Or continue in the way it goes; has this changed over the last 25y? Is it that good or can it be improved?? Nice survey question :)."

NIKHEF COMMUNITY

- Inclusivity in the workplace. Does everyone feel welcome and safe at Nikhef?
- There is a proposal to evaluate performance of scientists in a more versatile manner. It would be good to discuss this with the Nikhef community.
- "More support for families - child-care area, easier meeting with spouse/children"
- Ways to make it easier to newcomers and non-Nikhef-headquartered people to access and get to know the knowledge that is available at Nikhef-centraal.
- Our main attention should go out to establish career perspectives of young scientists (PhDs and postdocs). To implement a broad training of PhDs I propose that each PhD track should include a physics data analysis part as well as a technology (hardware, software/computing) part."
- "Note that there may be differences in career perspectives between university people (who can make it to full professor) and NWO-I people.
- "Nikhef has developed an enormously strong track record in particle physics and offers a stimulating place for fundamental research. It is also seen by the public and experienced by many young scientists as a fantastic place to work. Our prime goal is to not lose that.
- "What measures can we take to make sure that the negative influence of the corona pandemic remains as limited as possible? What can we do to make sure that the creativity of young people is not stifled in large collaborations and their work ignored? What are the best ways to increase diversity and inclusion? How can we support our PhD students and postdocs better in their careers?"
- Impact of corona on the LHC and other experimental programs.
- Improve CERN - Netherlands relation: help interested young people (applied, students, computing, physics, ...) to find opportunities at CERN.

ADDITIONAL COMMENTS

- The Dutch funding landscape and how to help to reform it. I would like to discuss the role of the individual and group grants for the scientific policy of Nikhef. Given that the NWO grants are limited, how should we compete with each other inside Nikhef? Are each of us free to ask for grants always or should we follow guidelines from the management, to prioritise groups that need more resources?
- What was missing in the "what is Nikhef good at" question: the quality of stuff we deliver (which is still excellent).
- How can we include the Technical Universities (esp Delft / Twente) more; are there resources/facilities that we can share nationally?
- The rating of the various programmes above makes little sense. Especially since I don't have the relevant information such as current staffing numbers, grant income, career trajectory of early career scientists in the various fields. Since I could not submit the survey without answering those questions, I put some answers. I am curious to see how such a poll can be used in a constructive way."
- Questions too much focused towards the current Nikhef "werkgroepen"
- "in response to the question about 'main activities': several topics are a 'means towards an end, and not an end by themselves -- specifically, I see 'Higgs/flavor/neutrino/dark matter/eEDM' searches all as means of searching for 'BSM'. So given the limited choice, I picked 'BSM' as first priority., and not those other topics
- "I would like to elaborate on the last question about traveling: all major experiments are large international collaborations and traveling to the experiment is therefore a necessary part of the scientific process. But this is not incompatible with environmental efforts. It is possible to travel by train instead of plane, but this is sadly more expensive and often more time consuming. I would therefore like to see Nikhef make an explicit statement about the use of trains versus planes, and bring up this point in their discussions about travel funding with NWO."

WHAT IS YOUR MOTIVATION TO WORK AT NIKHEF?

YOUR MOTIVATION

It's a fun and satisfying place to work.

"Cutting edge fundamental science in an inspiring and thriving environment, close connection between theory and experiment, tightly-knit national community"

"First of all, the offered job fit my personal scientific career plan. Previously, I hadn't really known much about Nikhef. But I'm very happy to say that I get the impression of an exciting, well organized research organisation and have so far only met extremely helpful and capable people."

Nikhef provides the infrastructure required to have impact on large scale projects (universities are not good for that) while providing the link to the more academic activities in the universities.

Making a visible impact in a big experiment.

"Nikhef provides a great network with world-leading experts in different fields of particle physics. It is a lively place, with many young people where many discussions take place; this makes Nikhef a very inspirational place with excellent career opportunities."

"great institute, good atmosphere"

"Collegial atmosphere, but also driven to excel in research. The connection to universities is both highly important and stimulating."

YOUR MOTIVATION

"Interest in the flavour puzzle and fundamental physics, (inter!)national impact, collaboration with various groups, and the open culture."

Provides me the means to answer some of the physics questions I ask myself

satisfy scientific curiosity

being at the forefront of particle physics research in the Netherlands

Contributing to world leading science that drives human curiosity: notably top notch big facilities like at CERN.

Stimulating and well-established research environment with collegial atmosphere.

One day being part of a discovery that will give us a new insight on how Nature works.

I am curious about the ultimate constituents of nature and their interactions and about the evolution of the universe.

Nikhef provides an excellent environment to perform curiosity driven research. It gives its employees a lot of freedom to work on the scientific topics of their own interests. This combined with the in-house expertise and supporting departments makes that Nikhef is one of the best places to work

"Challenging work, freedom to pursue interests, interactions with students. I want to understand nature."

YOUR MOTIVATION

"It is an interesting and challenging environment with rather diverse (although that could become more diverse), stimulating and pleasant people to work with."

Coordinates all of particle physics in the Netherlands

Exploring the unknown and in my opinion most fundamental questions regarding our non-living (i.e. excluding life/biology) Universe. Experimentally and theoretically. If I would be 40 years younger: I would pursue a career in fundamental biology i.e. origin and working of life.

"Curiosity about the nature of our universe, its contents, its origin, the relation between elementary particles and the first seconds of the universe, space and time. Desire to learn and to teach to others. Desire to construct something and see it grow and work (e.g. a hardware project)."

"Enables collaboration between select group of physicists in high-energy physics theory, experiment and computing, both at Nikhef and at surrounding universities. One-of-a-kind place for doing research."

scientific curiosity and capability to realize experiments

"The search for beyond-the-standard-model physics using small-scale precision experiments is a non-traditional approach in particle physics. With the recently developed state-of-the-art techniques from atomic, molecular and optical physics the potential impact of this approach has increased tremendously. I am motivated to work on this promising approach and to highlight its potential impact. By strengthening and focussing our efforts on a national scale within the Nikhef collaboration, and making strong international alliances, our research in this field will have a global impact!"

YOUR MOTIVATION

"I am a member of one of the University partners, and my research is a good fit to the work done at Nikhef."

Being a little part in helping the hardware developments forwards towards answering the fundamental questions about nature.

Finding out how nature works: curiosity and intellectual challenge both play an important role.

"Stimulating scientific atmosphere, network place / hub for meetings, interaction, collaborations etc both within one field and between fields."

""That I may understand whatever binds the world's innermost core together""(J.W von Goethe, Faust)
Scientific curiosity."

"By grouping many experiments under one roof, Nikhef has a critical size that allows it to have excellent mechanics/electronics/R&D departments and thereby play a leading role in the detector construction. This in turn leads to significant roles in the experiments themselves."

It is exciting to work at the unknown and forefront of science in an excellent lab

excellent national coordination of forefront science. Crossfertilization between physics sub-fields

Access to other experts in the field

YOUR MOTIVATION

Inspiring environment to do research and contribute to the puzzle of understanding nature

Fundamental science. Creative environment. Teaching.

Frontier of fundamental science

Individual university groups are typically too small to allow for a visible participation in large collaborations; Nikhef offers the facilities for an effective participation.

"Nikhef is a leading laboratory at the field of particle physics and provides expertise in multiple interesting subjects, ranging from physics analysis and statistics to hardware development."

nice and stimulating working environment that provides the freedom to develop own ideas and all facilities to do so. Exchange with theorist and possibility to build hardware necessary for project development. Possibility of getting personas grants.

The ability to provide contributions to HEP that have real impact on the field.

"Nikhef provides rich and diverse scientific environment, enabling major contributions to fundamental science on an international scale."

"Nikhef is a wonderful congregation of different communities where knowledge is easily shared among all. The small scale of the institute really gives one a sense of one community moving forward at many frontiers of science, unlike at large-scale institutes where each group works on its own."

YOUR MOTIVATION

Still curious about how the universe works

Nikhef (incl. partner universities) is large enough to impact and contribute to Big Science instrumentation and hence scientific discoveries in global particle and astroparticle physics experiments via the different science programs.

Doing science with enthusiastic colleagues. Scientific groups at Nikhef are large enough to have impact in an experiment.

Opportunity to work with excellent people on interesting topics in physics

I like to work on something that advances our fundamental understanding of the world.

Nice community with excellent scientists in several different sectors

"As AMO physicist, my motivation to be part of Nikhef is to better understand the current problems in particle physics and hopefully be part of solving them."

"It is an amazing place with the right variety of research topics and an really excellent infrastructure (engineering, workshops etc)."

World class institute where many competences come together; great colleagues and many possibilities to learn and contribute.

Nikhef is unique and lots of technological chalanges. All projects are different and in some way always complex.

YOUR MOTIVATION

In my current position I can contribute to the development of technologies for both fundamental research and for applications outside the field of HEP.

Nikhef offers me a broad range of opportunities to fulfil my curiosity and discover physics beyond the SM -- be it using LHC data (for the next few years) or elsewhere.

"I worked in nuclear, high-energy, and gravitational-wave physics and Nikhef is one of the best institutes in the world to work in these fields; the scientific environment at Nikhef beats almost any university due to the large concentration of experts and the technical support enables one to contribute at the top level to experiments in these fields."

Excellent scientific institute and proud to be part of it

Contribute to our understanding of nature at the smallest and largest scale.

"Scientific focus in research groups with good support from the mechanical, electronics and computing departments. There is a strong community at the institute, with good scientific and personal contacts between the research groups."

"Driven by my vast of passion in fundamental physics research, I found Nikhef best for me to continue my scientific ambition. It has a good composition and ambience to encourage people on detector R&D and different physics topics."

Different interesting fundamental science questions being pursued in an inspiring environment offering and connecting a large amount of expertise in hardware/software/data analysis/theory

Institute with excellent scientific profile and reputation.

YOUR MOTIVATION

It dropped dramatically after the last question. Science shouldn't be a popularity contest. It is nonsense to try to rank one sub-area as most important. Innovative research is what is going to move us forward and that happen in any of the sub-fields listed.

Nikhef is a good place to work on one of the most exciting questions: the physics and origin of the highest-energy particles in Nature

"Nikhef is a exciting place to work:many discussions, many ideas, many inputs to learn and to grow."

"I very much enjoy the scientific pollination that occurs at Nikhef, leading to new ideas and new insights. In addition, I very much like the social aspect of Nikhef, too. I very much enjoy being allowed to be affiliated with Nikhef."

Hope that the Einstein Telescope will be build in the Netherlands/Germany/Belgium.

"not so relevant, I work in engineering. I am in general interested in the technologies and outcome of physics research experiments."

Beyond the Standard Model and the early Universe.

I like it. I love it!

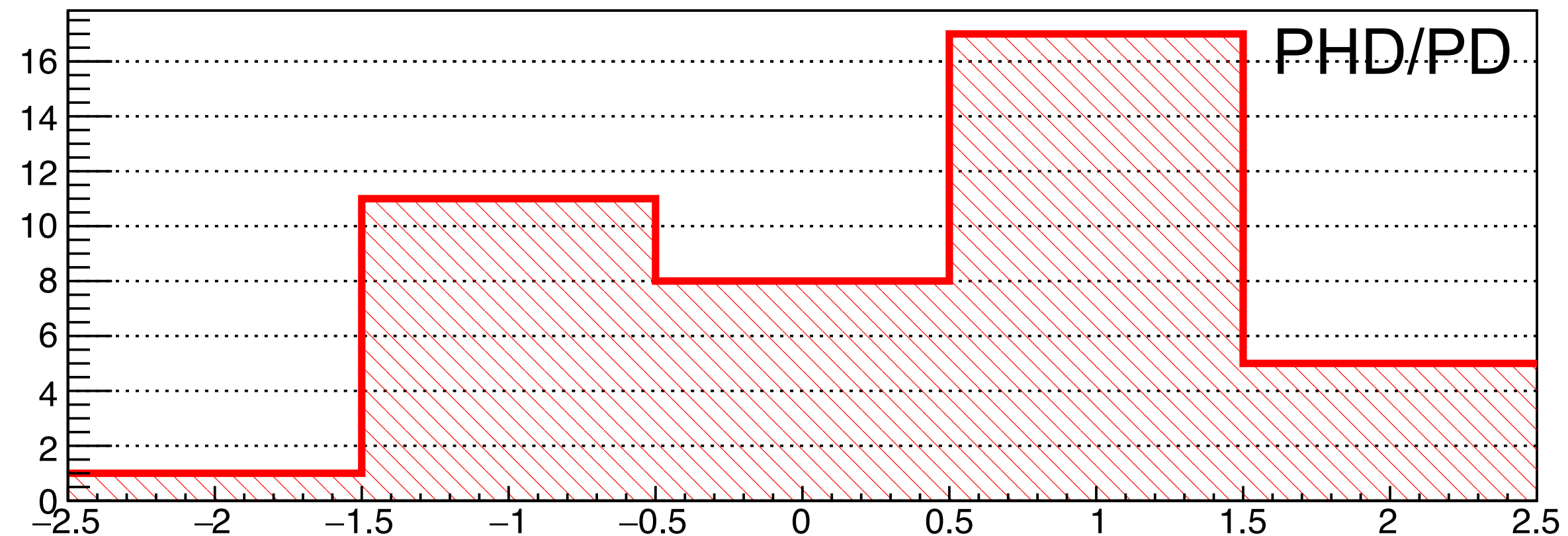
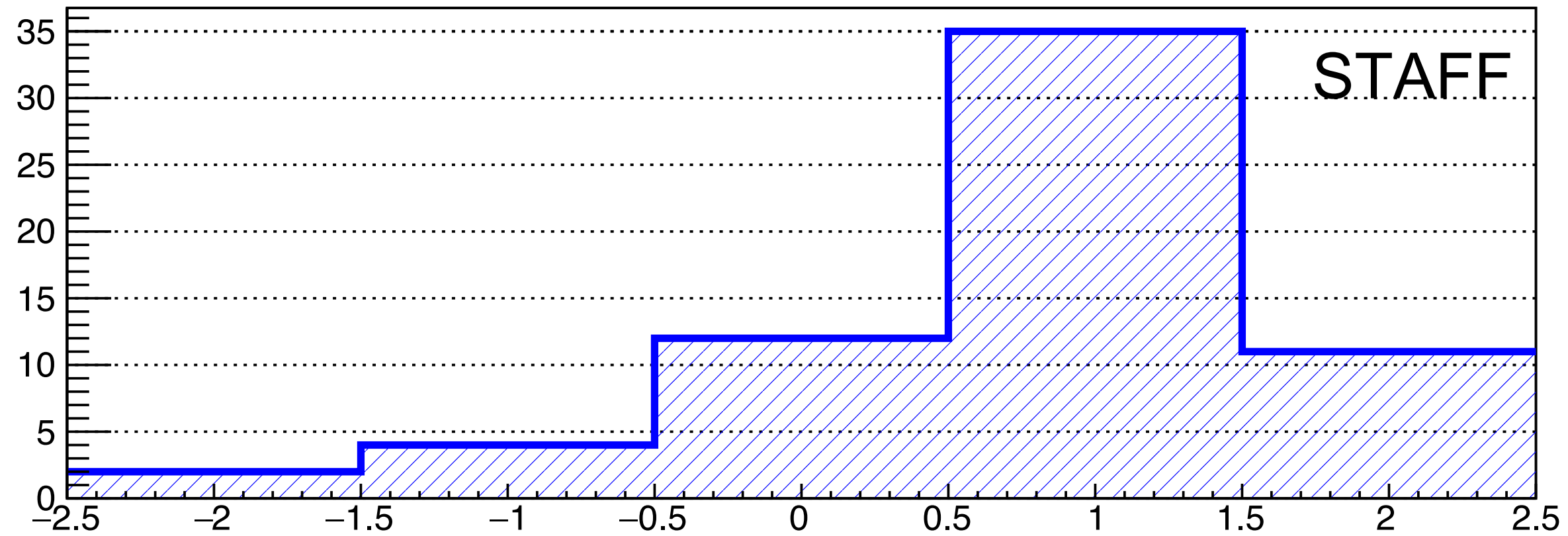
BACKUP

NIKHEF PERFORMANCE

PLEASE RATE THE CURRENT **PERFORMANCE** OF NIKHEF IN THE FOLLOWING TOPICS

(-2: VERY WEAK, 0: AVERAGE, +2: VERY STRONG):

COOPERATION BETWEEN EXPERIMENTS AND THE THEORY GROUP



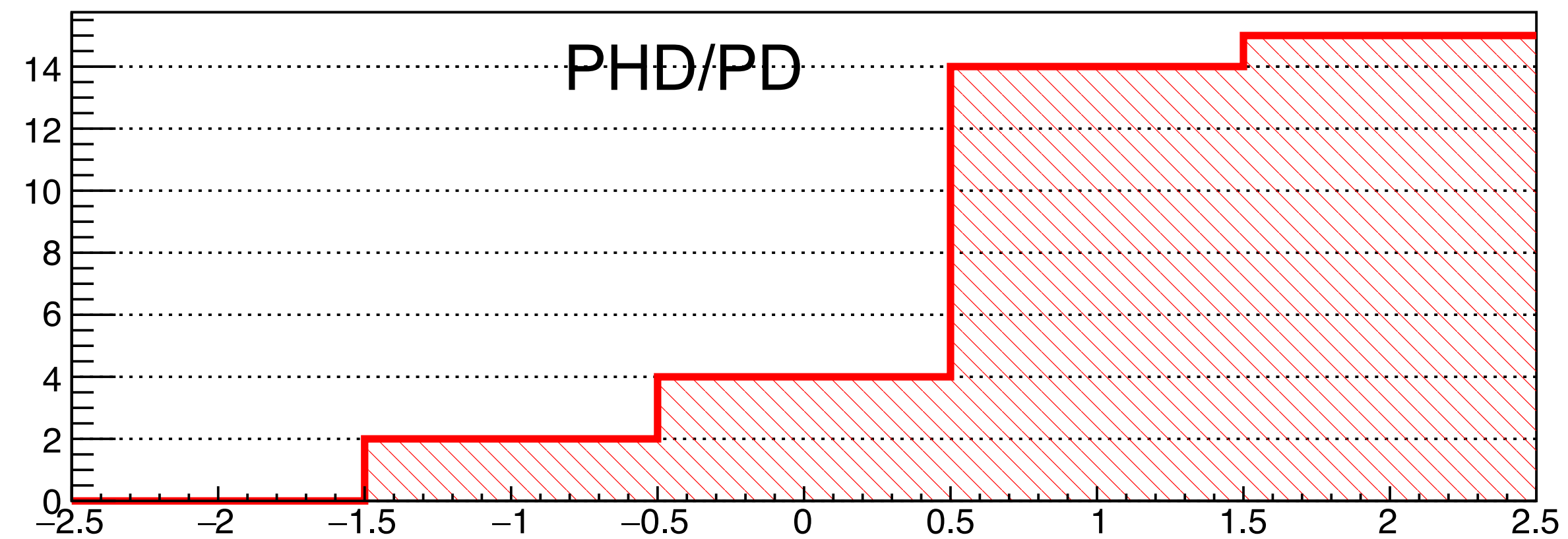
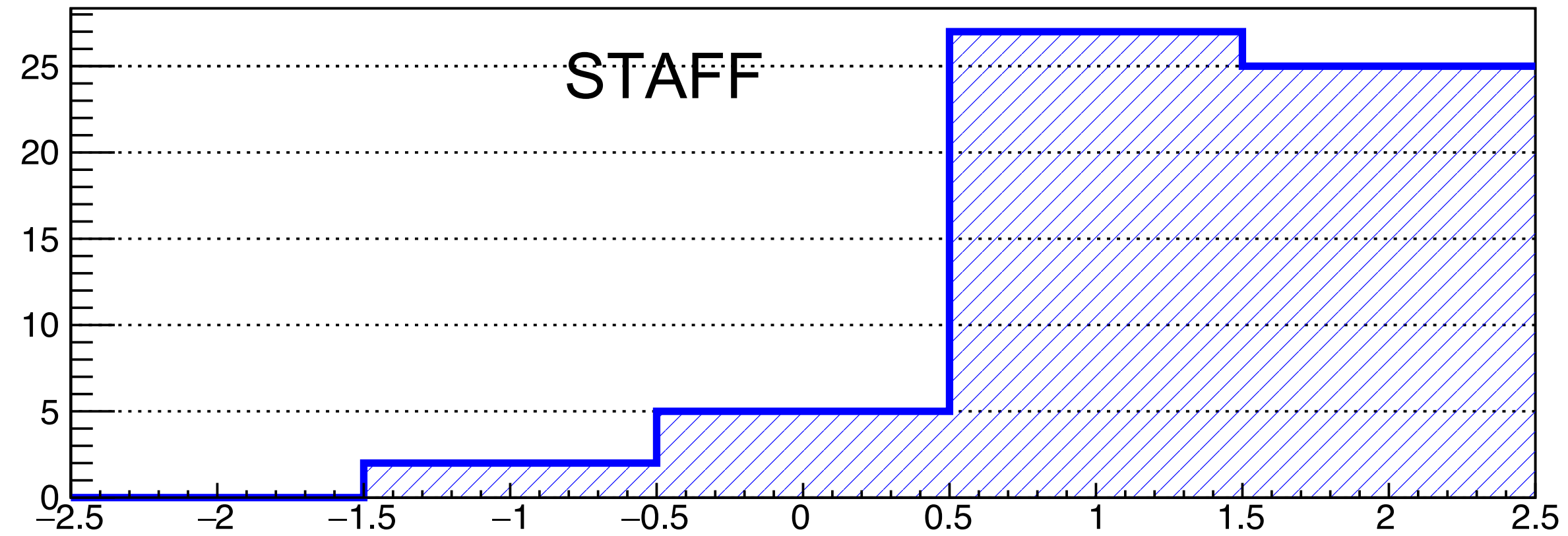
PLEASE RATE THE CURRENT **PERFORMANCE** OF NIKHEF IN THE FOLLOWING TOPICS

(-2: VERY WEAK, 0: AVERAGE, +2: VERY STRONG):

EXPLOITATION OF THE EXPERTISE IN OUR TECHNICAL DEPARTMENTS BY THE EXPERIMENTS

Staff:

- 14 “no opinions”, 11 are employed by universities



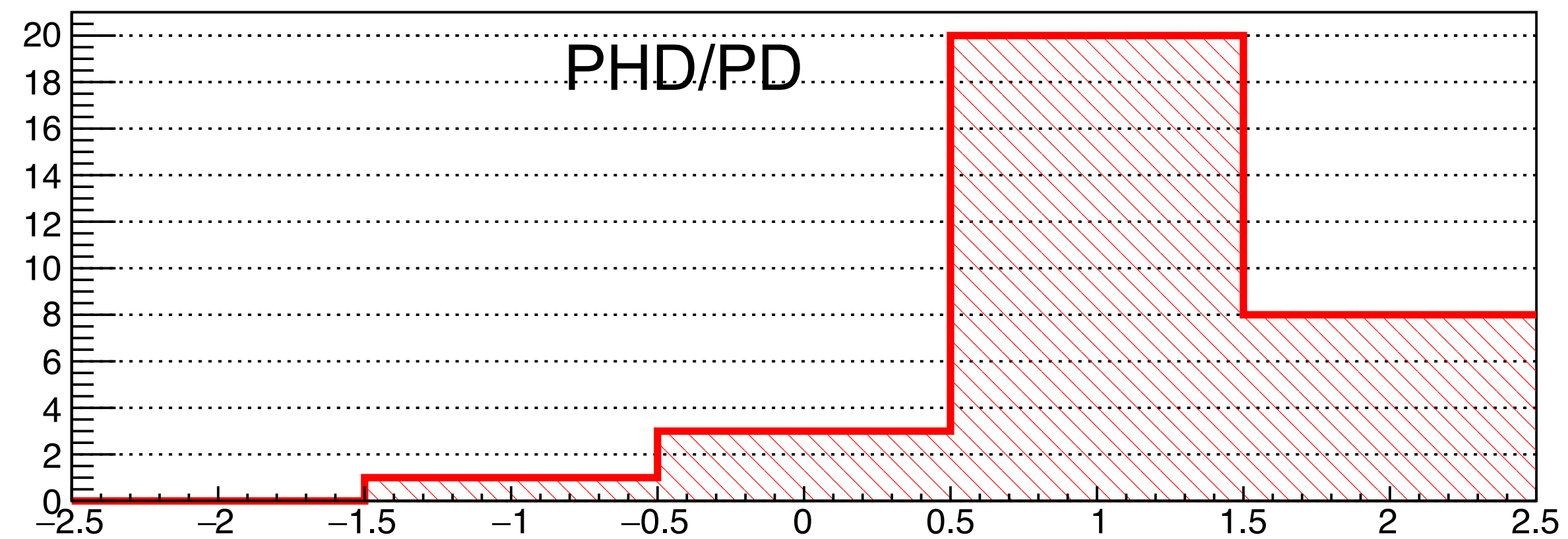
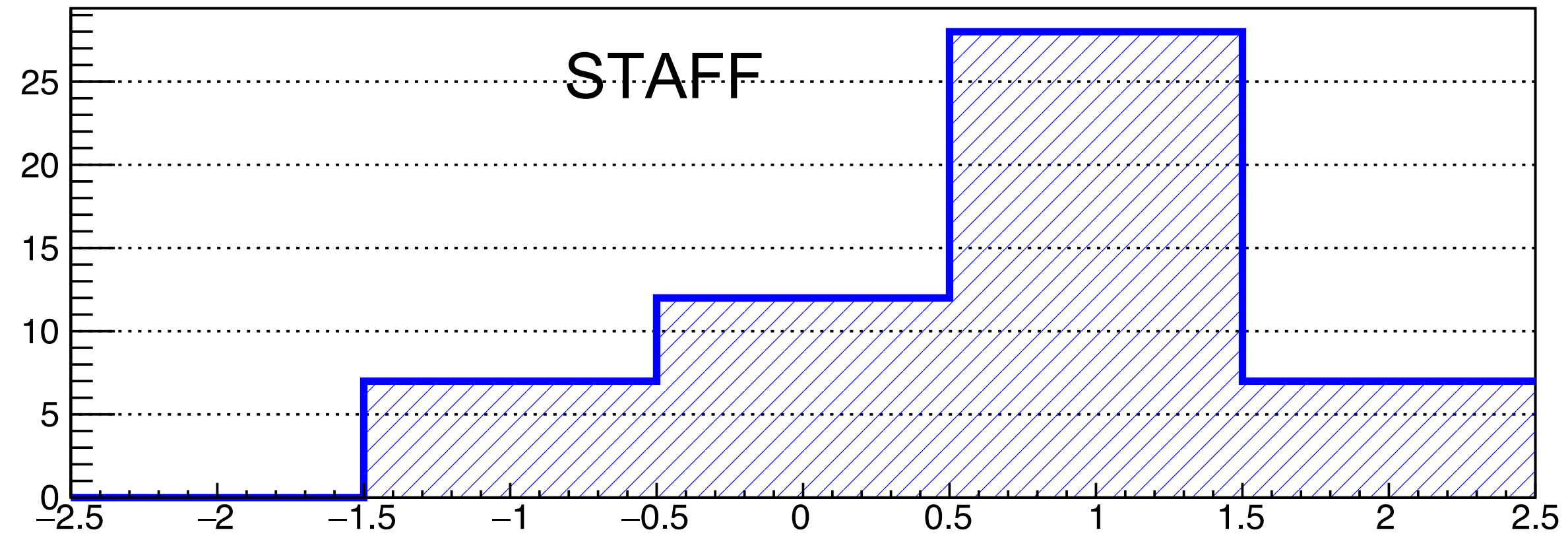
PLEASE RATE THE CURRENT **PERFORMANCE** OF NIKHEF IN THE FOLLOWING TOPICS

(-2: VERY WEAK, 0: AVERAGE, +2: VERY STRONG):

ACQUISITION OF EXPERTISE IN THE TECHNICAL DEPARTMENTS BASED ON THE NEEDS EXPRESSED BY THE EXPERIMENTS

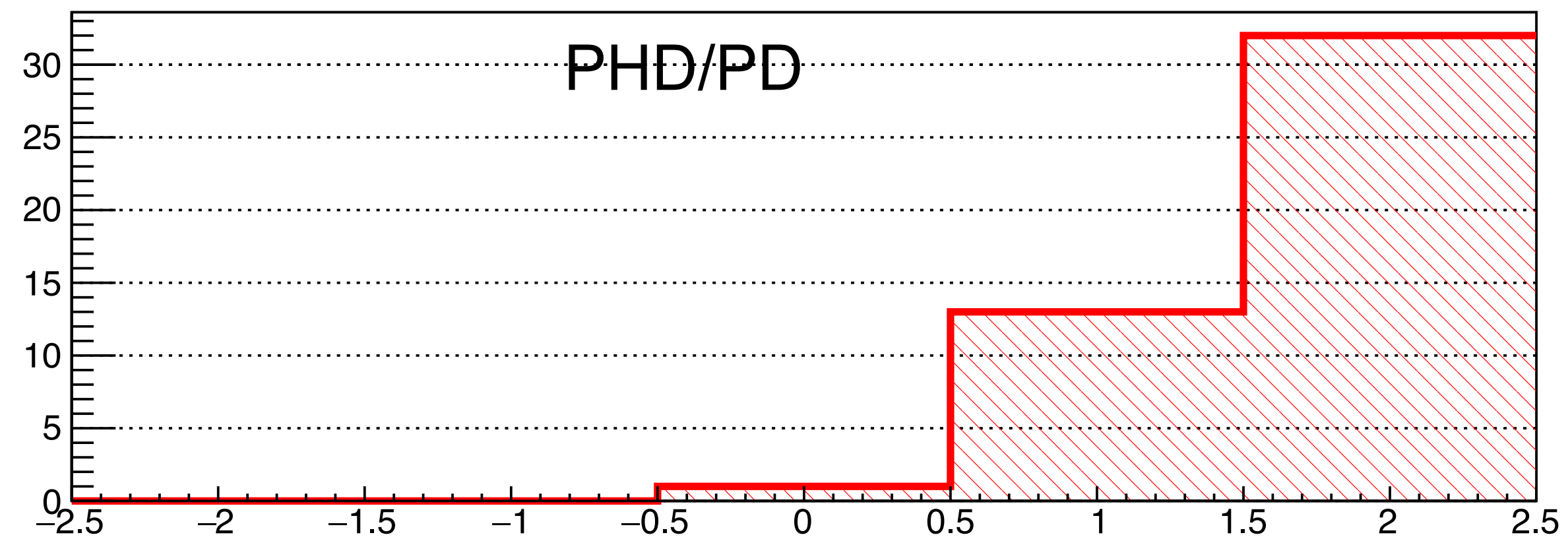
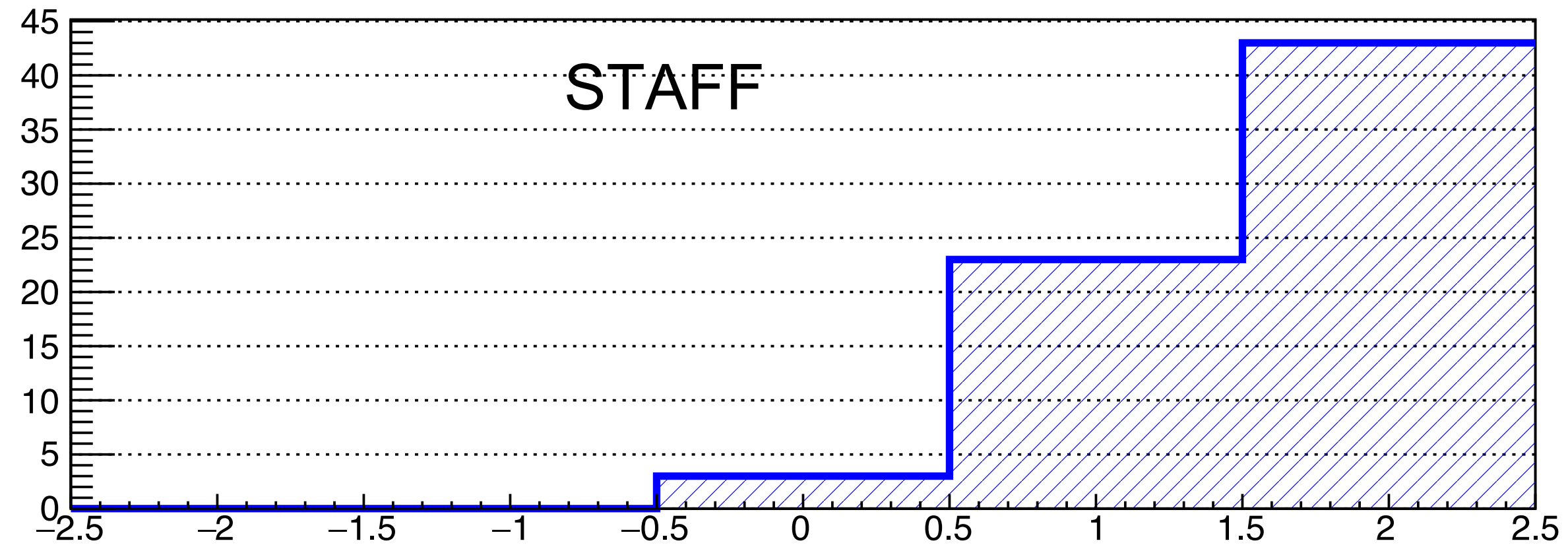
Staff:

- 19 “no opinions”, 12 are employed by universities
- 7 “negative”, 6 are employed by universities



PLEASE RATE THE CURRENT **PERFORMANCE** OF NIKHEF IN THE FOLLOWING TOPICS
(-2: VERY WEAK, 0: AVERAGE, +2: VERY STRONG):

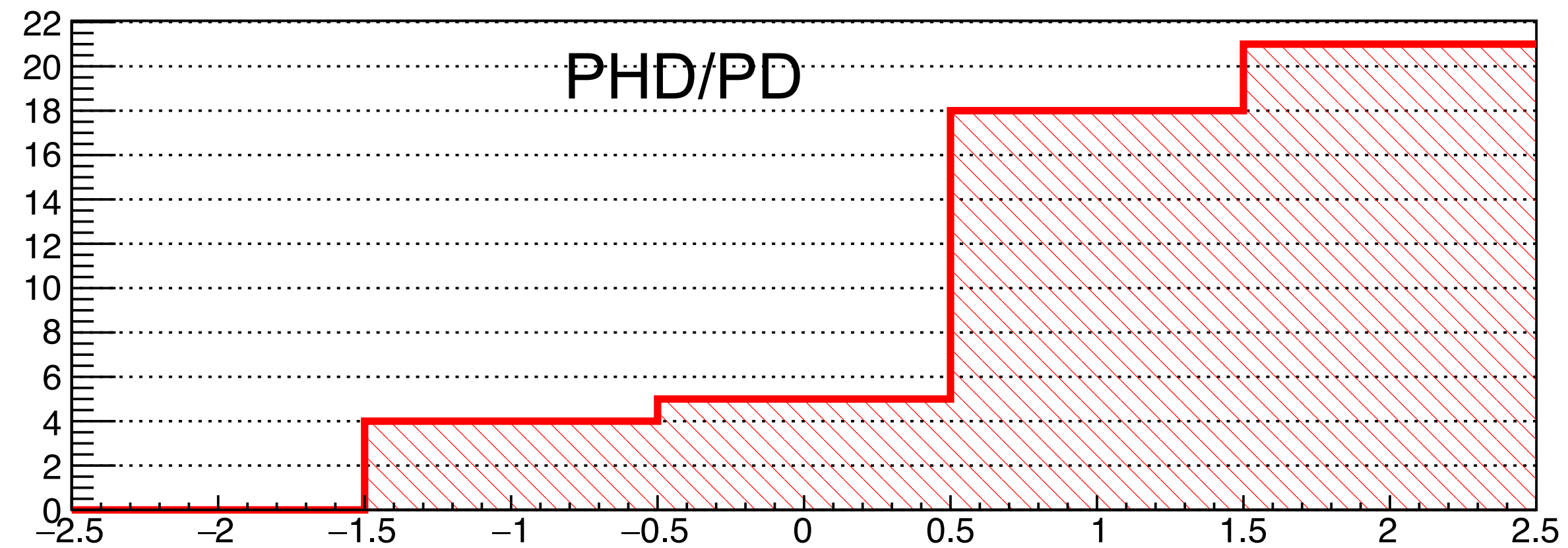
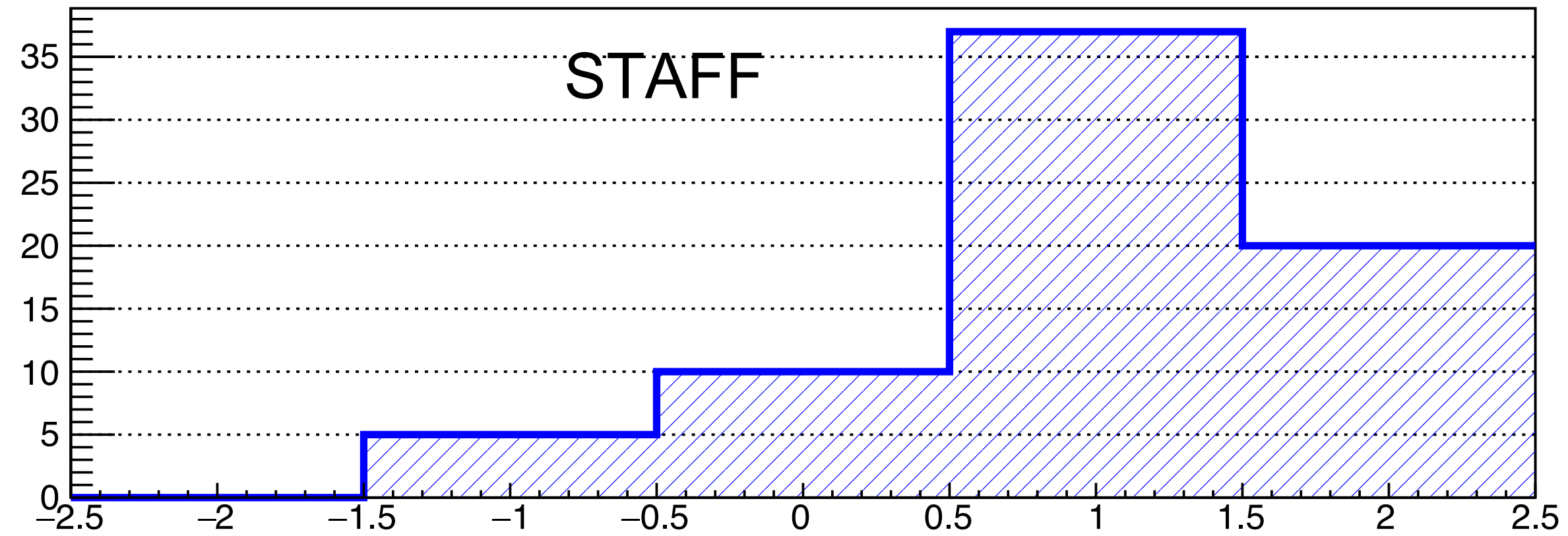
PARTICIPATION IN HIGH-IMPACT EXPERIMENTS



PLEASE RATE THE CURRENT **PERFORMANCE** OF NIKHEF IN THE FOLLOWING TOPICS

(-2: VERY WEAK, 0: AVERAGE, +2: VERY STRONG):

SOCIAL/INTELLECTUAL AND SCIENTIFIC ATMOSPHERE/DISCUSSIONS

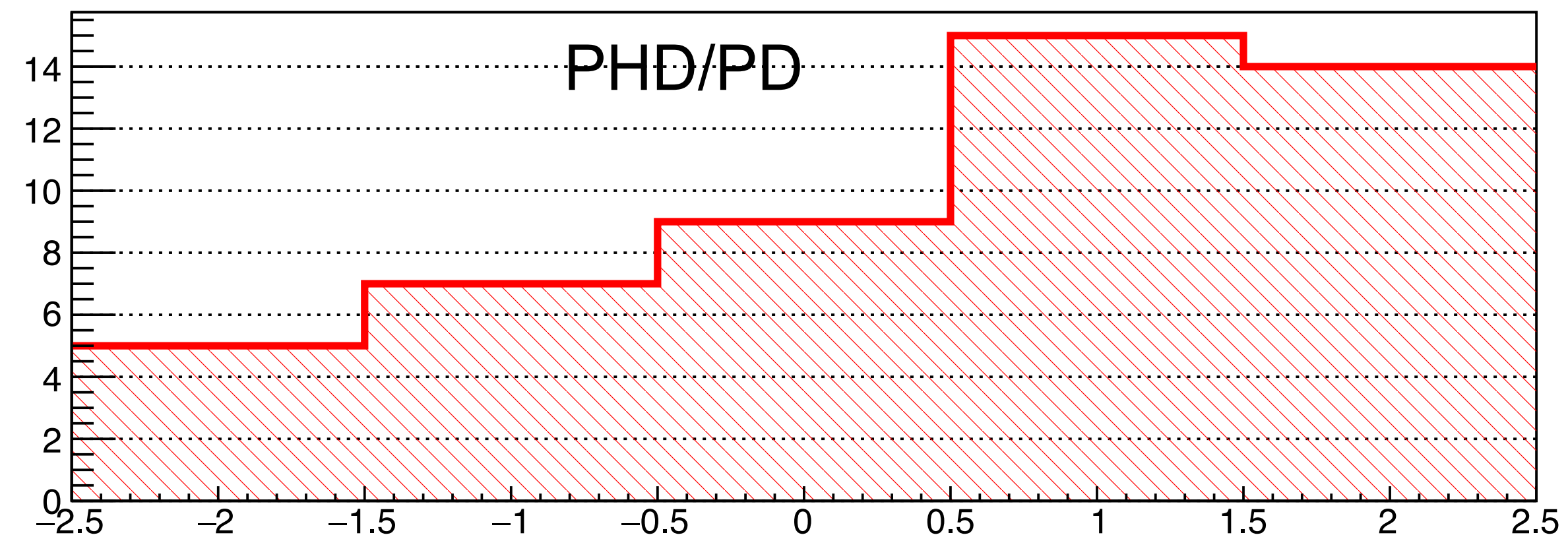
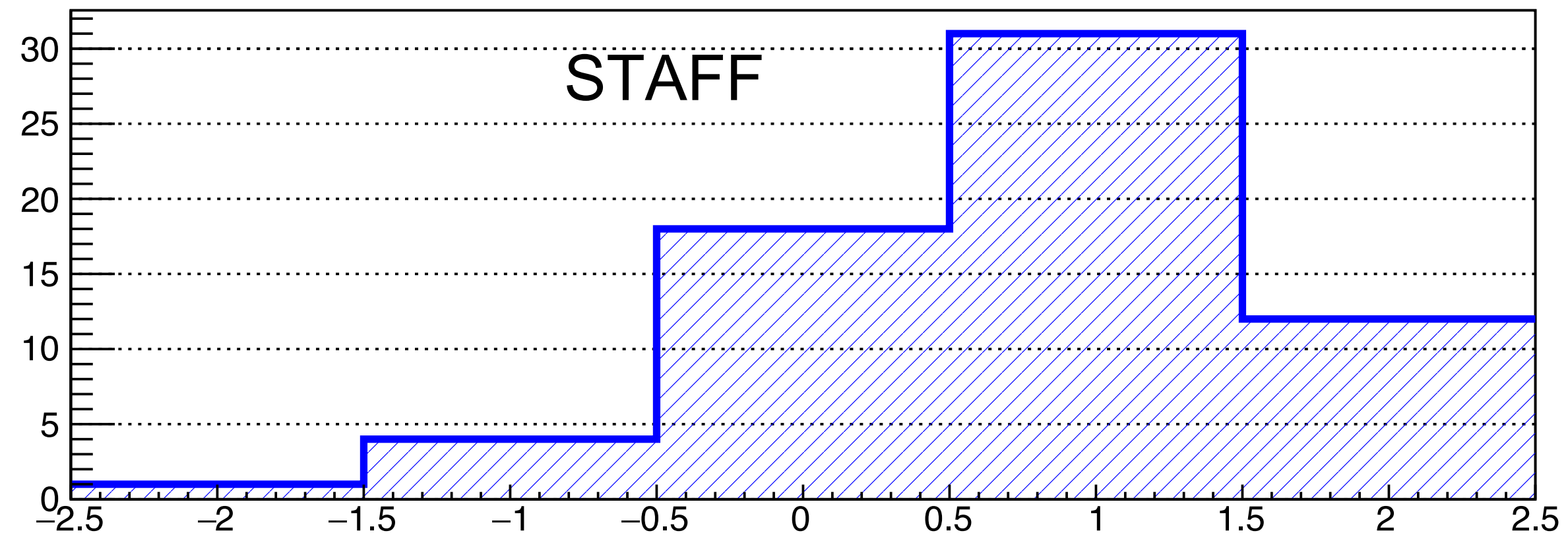


PLEASE RATE THE CURRENT **PERFORMANCE** OF NIKHEF IN THE FOLLOWING TOPICS
(-2: VERY WEAK, 0: AVERAGE, +2: VERY STRONG):

MENTORING OF JUNIOR SCIENTISTS (PHD/POSTDOC)

PhD/PostDoc:

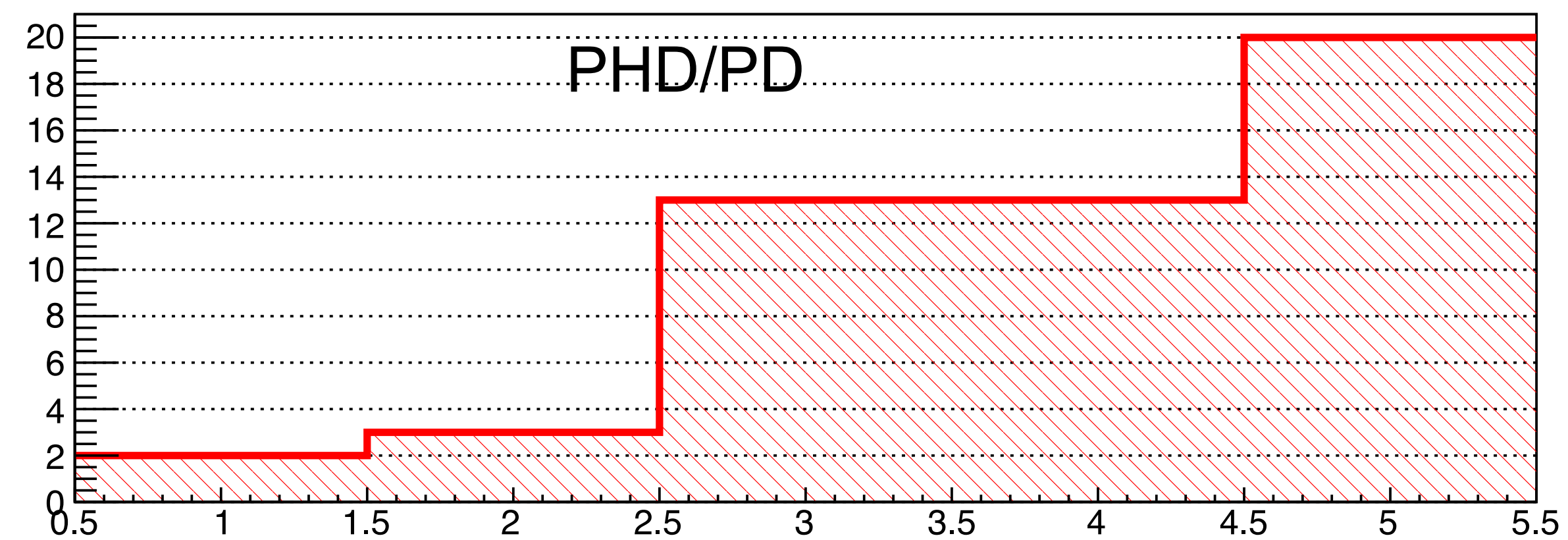
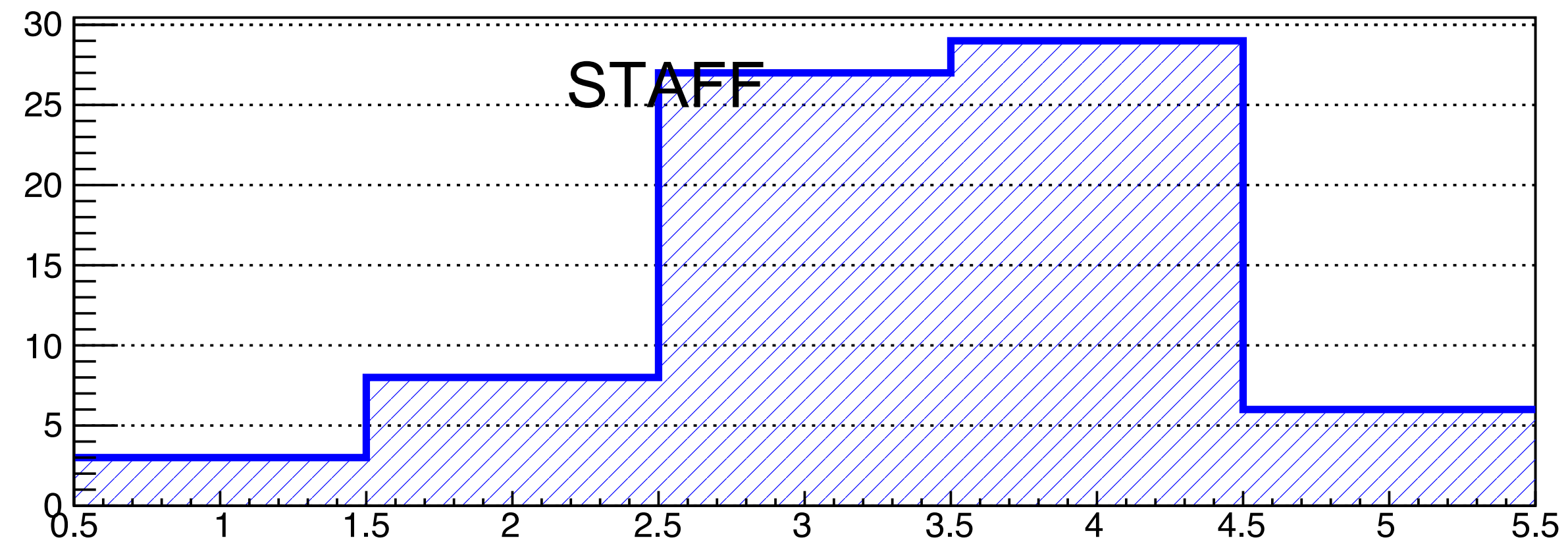
- 12 negative, 8 are in the final year.
PhD: 3-4 years, Postdoc: 2-3 years



WHERE SHOULD NIKHEF **IMPROVE** (1=VERY LOW PRIORITY, 5=HIGH PRIORITY)?

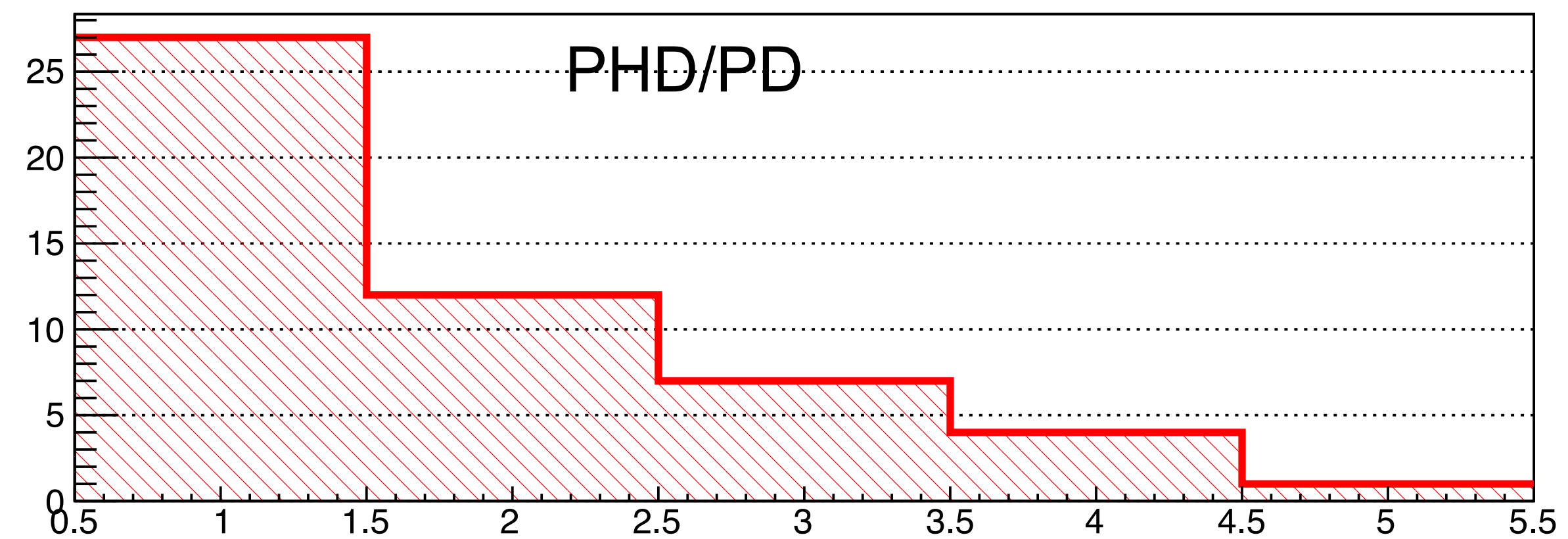
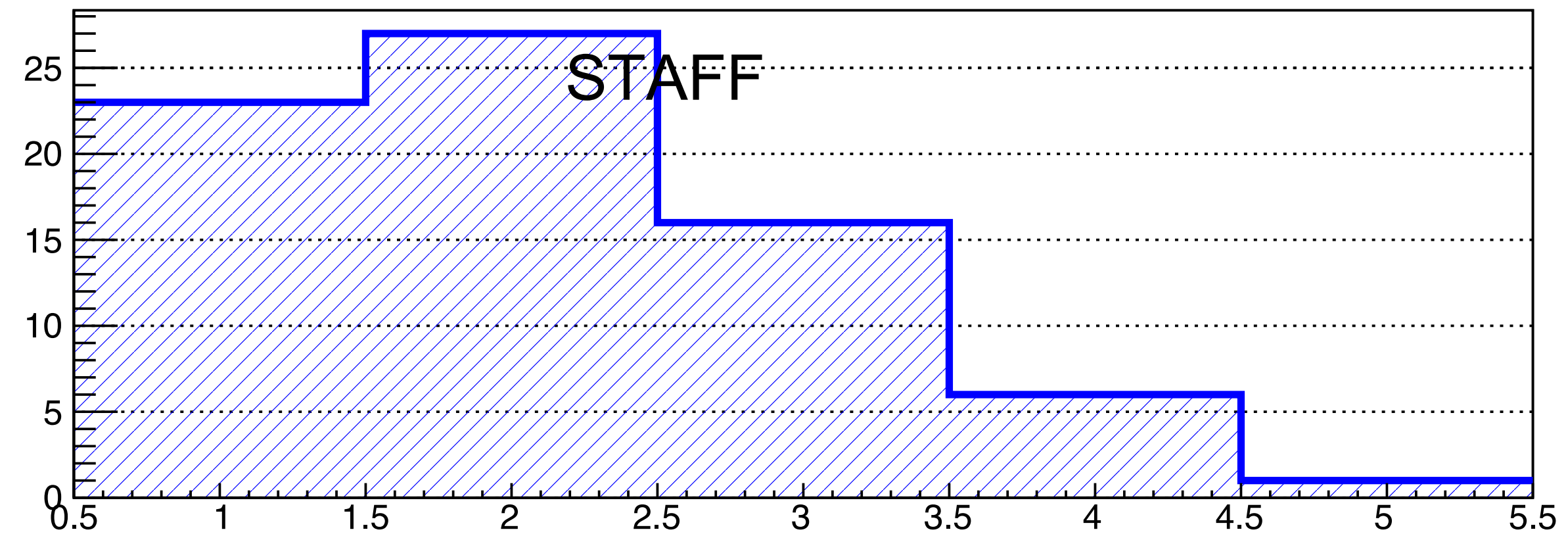
MENTORING YOUNG SCIENTISTS

Note that the performance of Nikhef was positively rated



WHERE SHOULD NIKHEF **IMPROVE** (1=VERY LOW PRIORITY, 5=HIGH PRIORITY)?

SHORTEN THE DURATION OF PHD RESEARCH



PLEASE RATE THE CURRENT **PERFORMANCE** OF NIKHEF IN THE FOLLOWING TOPICS
(-2: VERY WEAK, 0: AVERAGE, +2: VERY STRONG):

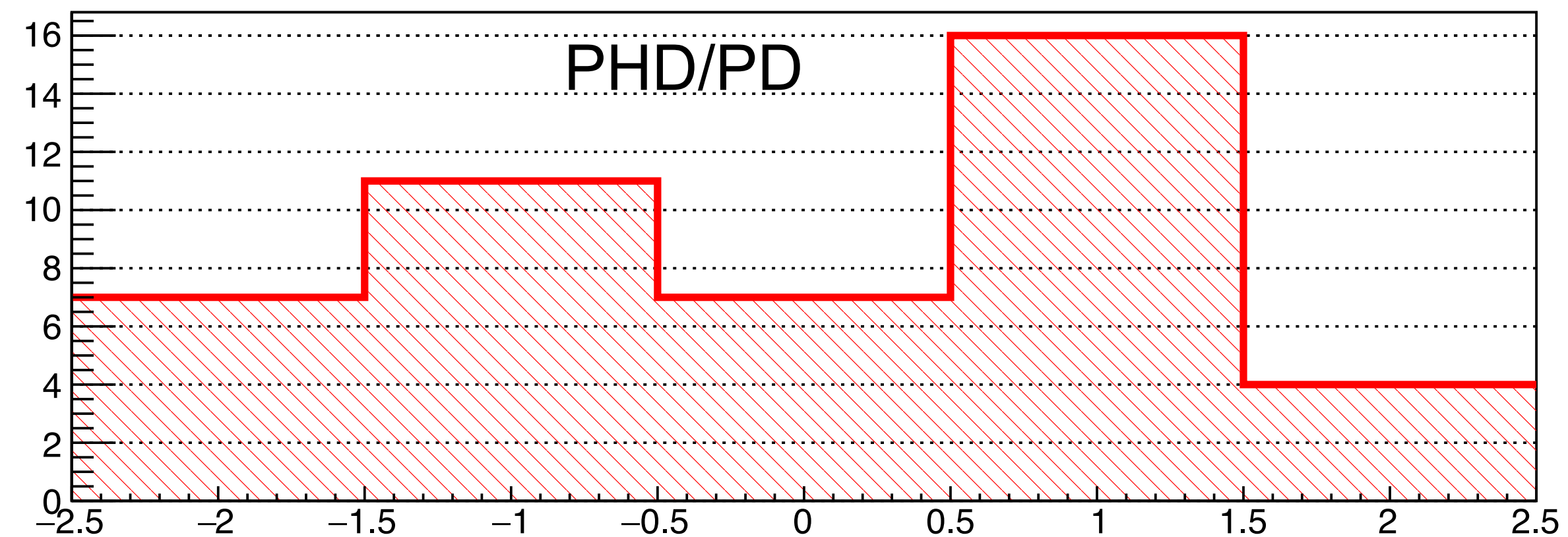
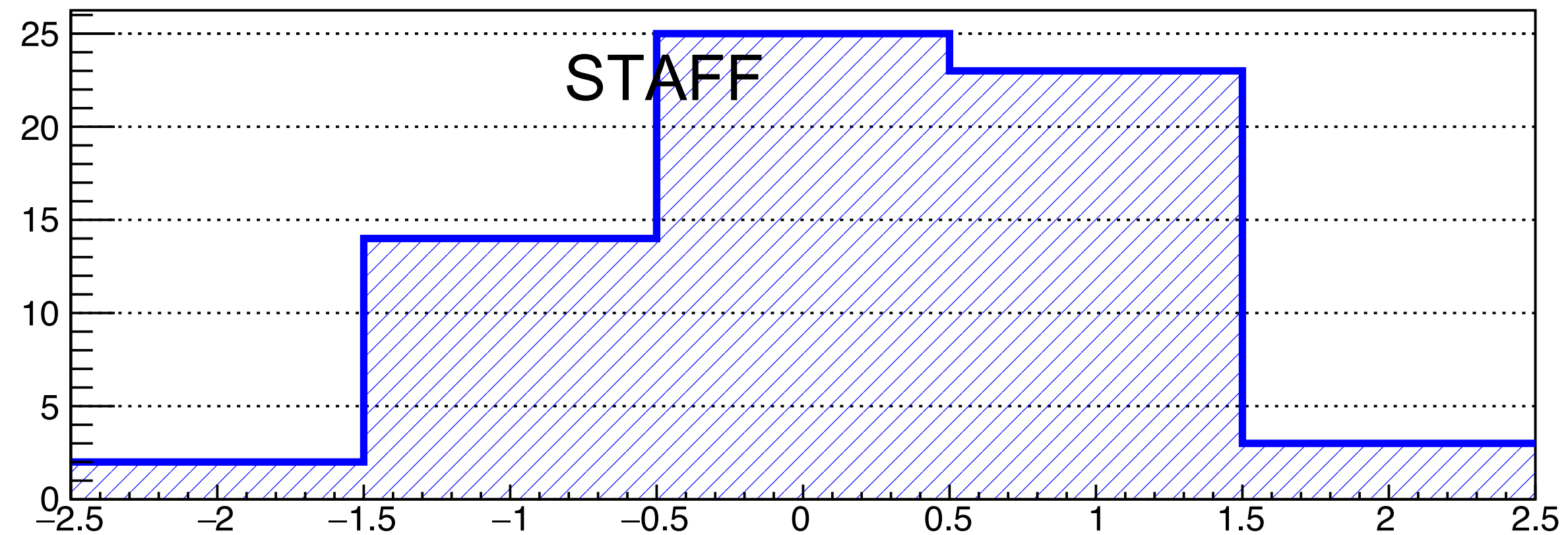
CAREER PERSPECTIVE

Staff:

- NWO staff average -0.14
- University staff average 0.39

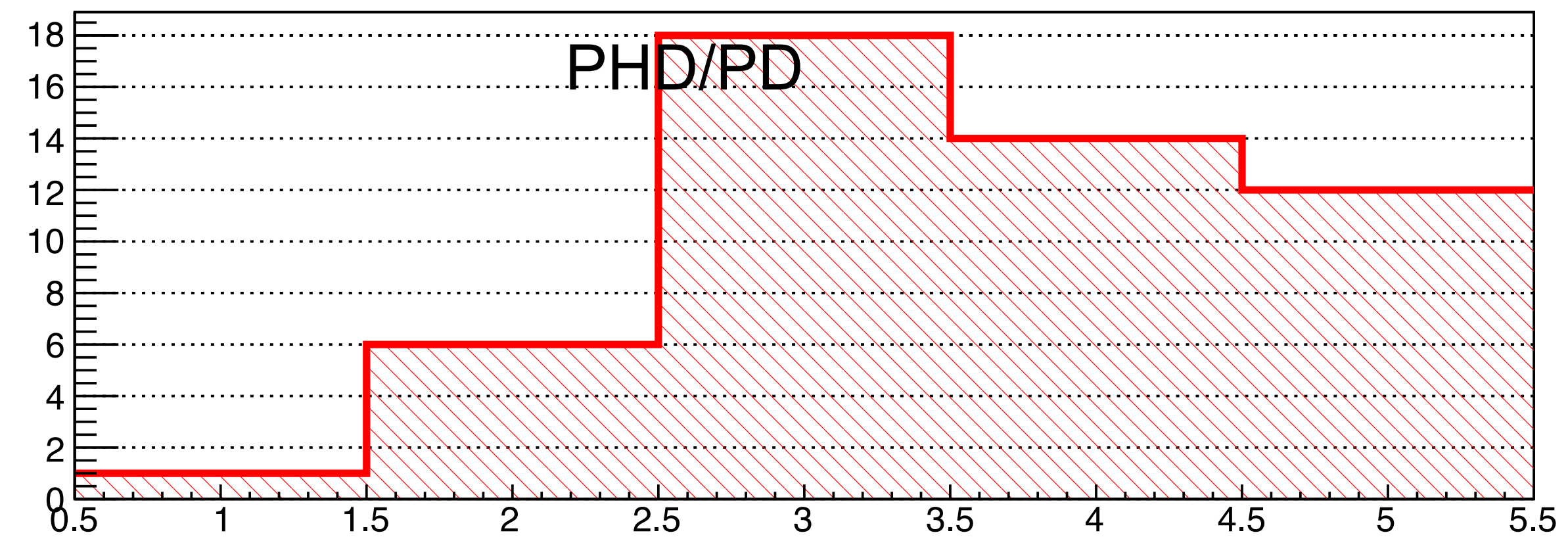
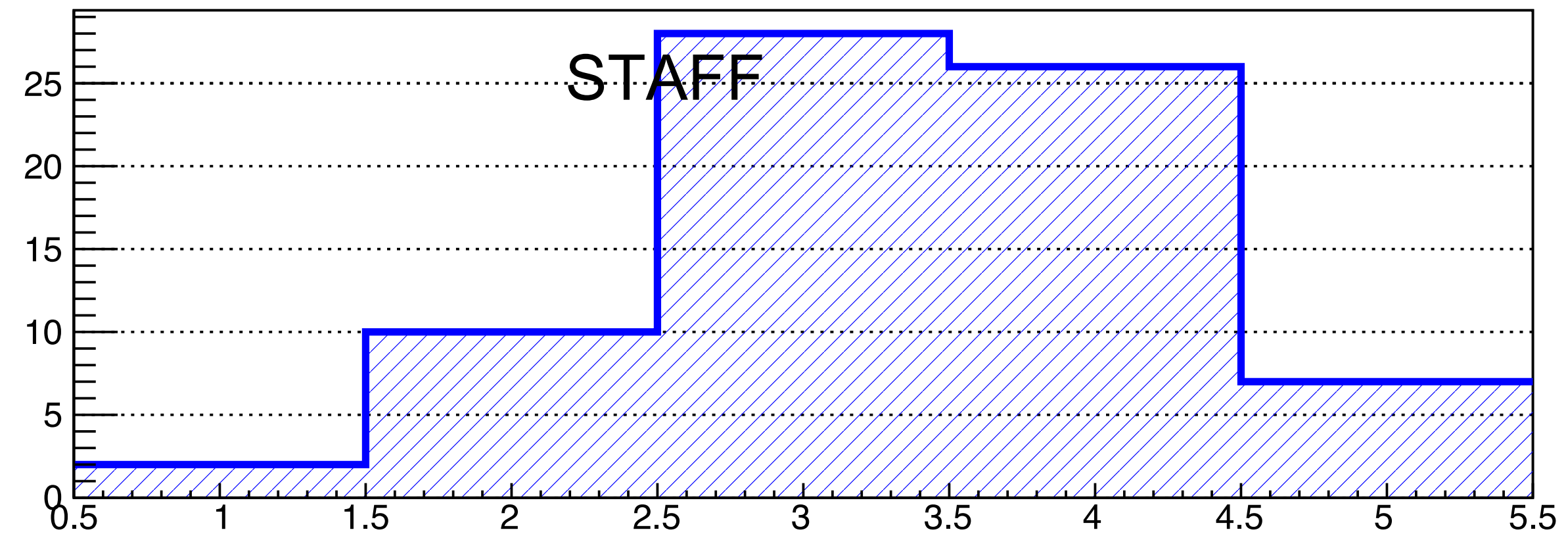
PhD/PostDoc:

- Negative: 14 PhD, 4 Postdocs
- Positive: 12 PhD, 8 Postdocs



WHERE SHOULD NIKHEF IMPROVE (1=VERY LOW PRIORITY, 5=HIGH PRIORITY)?

CAREER SUPPORT

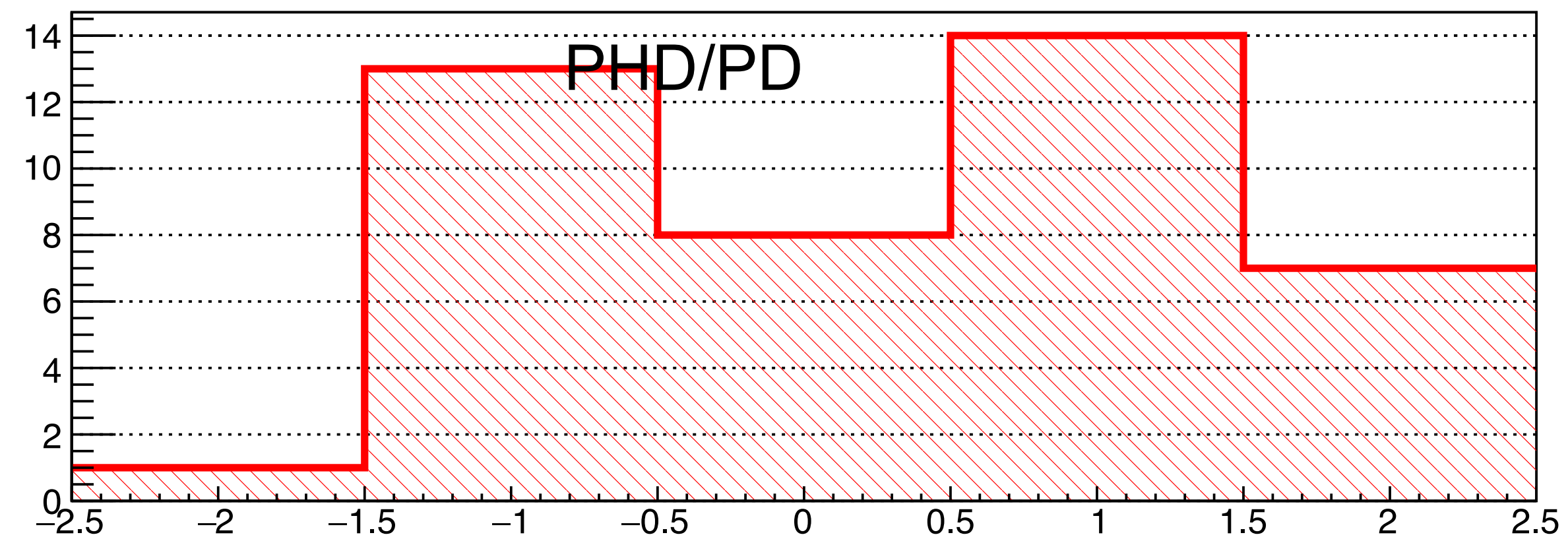
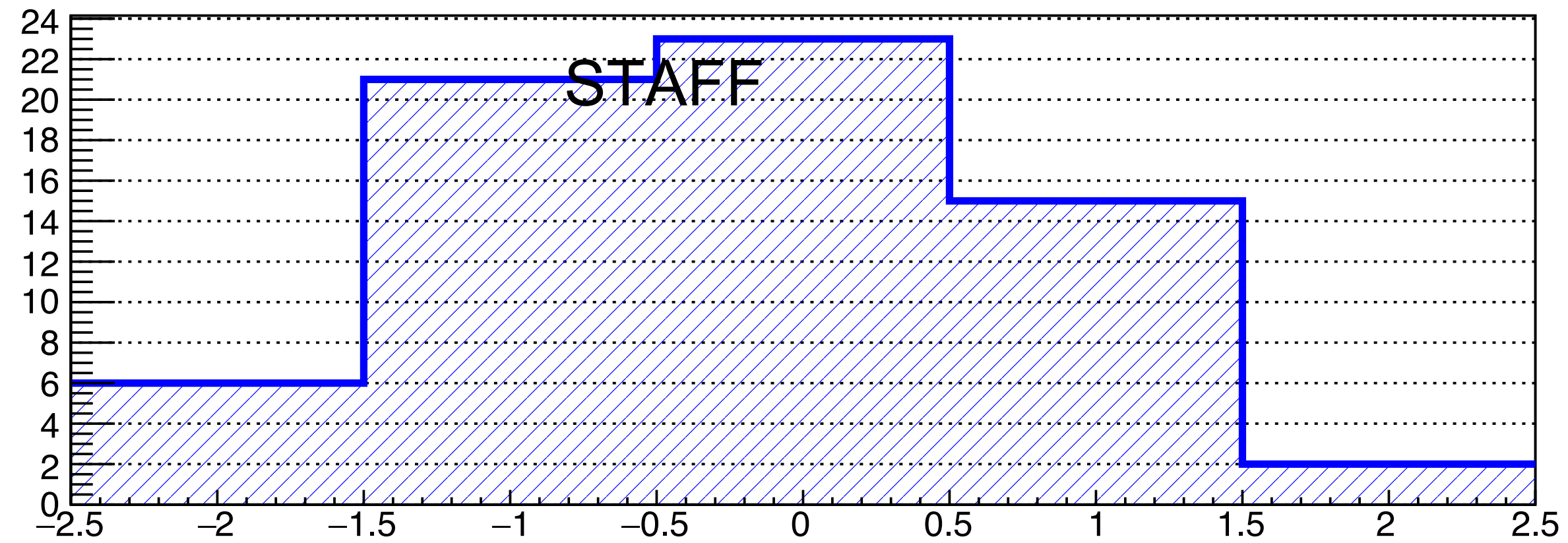


PLEASE RATE THE CURRENT **PERFORMANCE** OF NIKHEF IN THE FOLLOWING TOPICS
(-2: VERY WEAK, 0: AVERAGE, +2: VERY STRONG):

DIVERSITY

PhD/PostDoc:

- 14 negative: 8 male, 2 female
- 21 positive: 16 male, 3 female
- Questionnaire: 10 female, 34 male, 7 no info

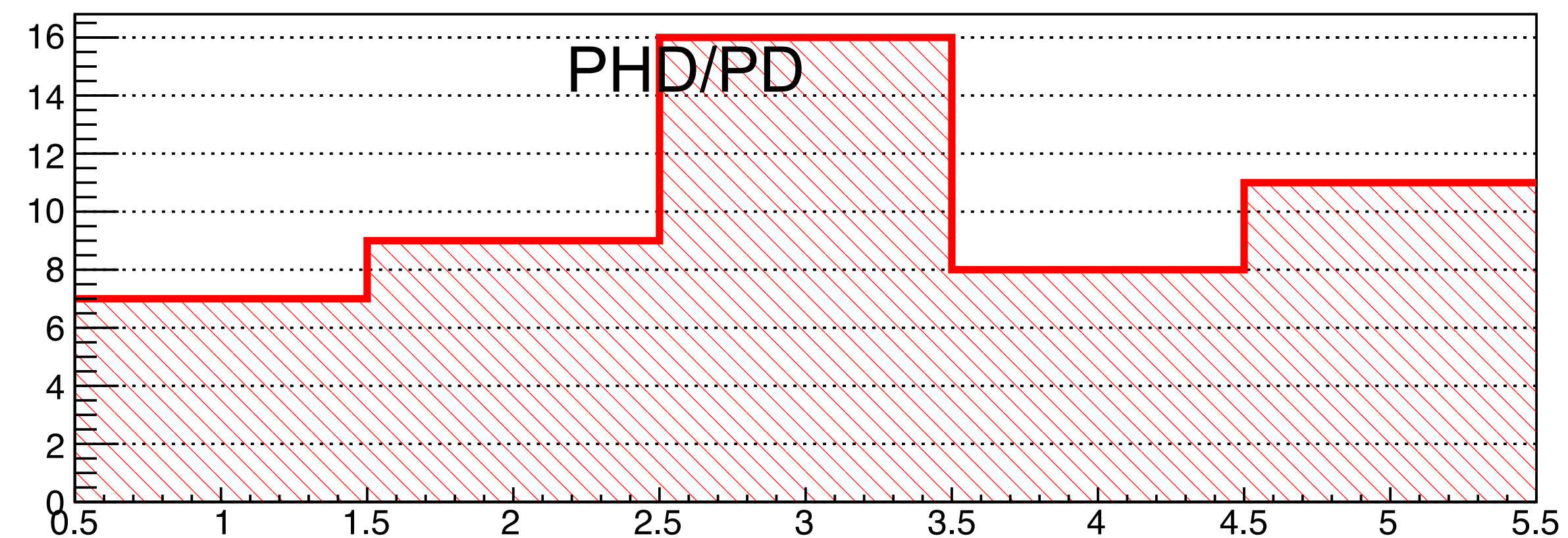
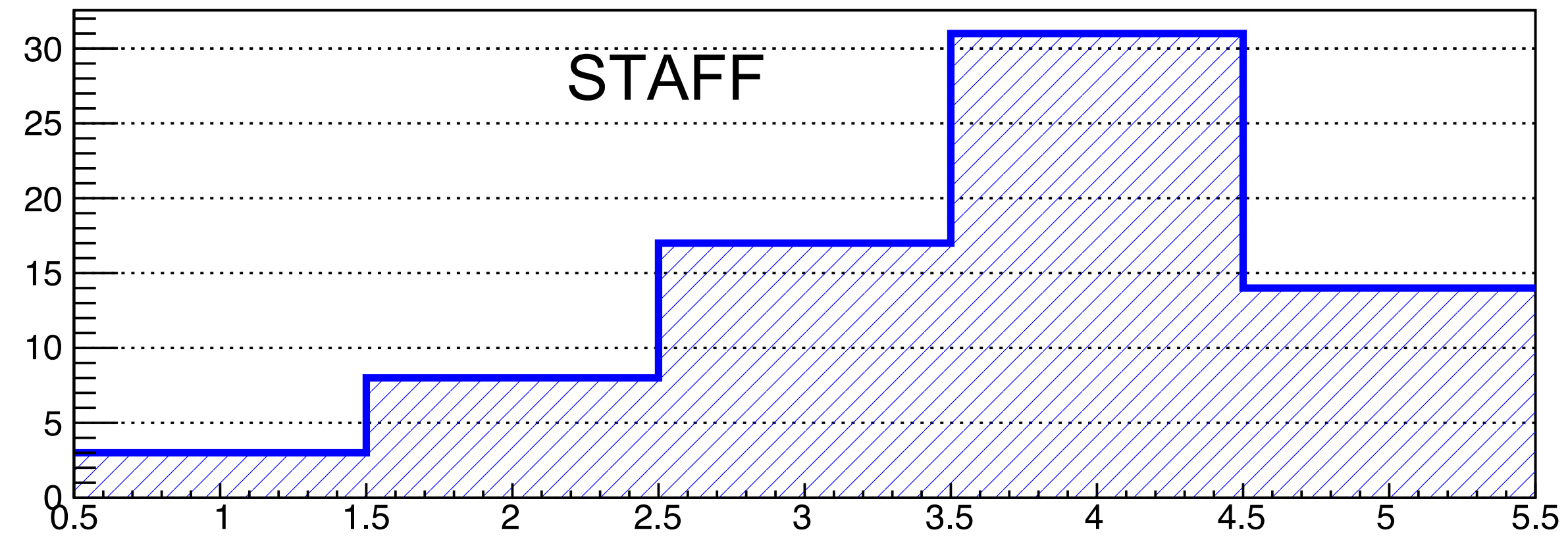


WHERE SHOULD NIKHEF IMPROVE (1=VERY LOW PRIORITY, 5=HIGH PRIORITY)?

DIVERSITY

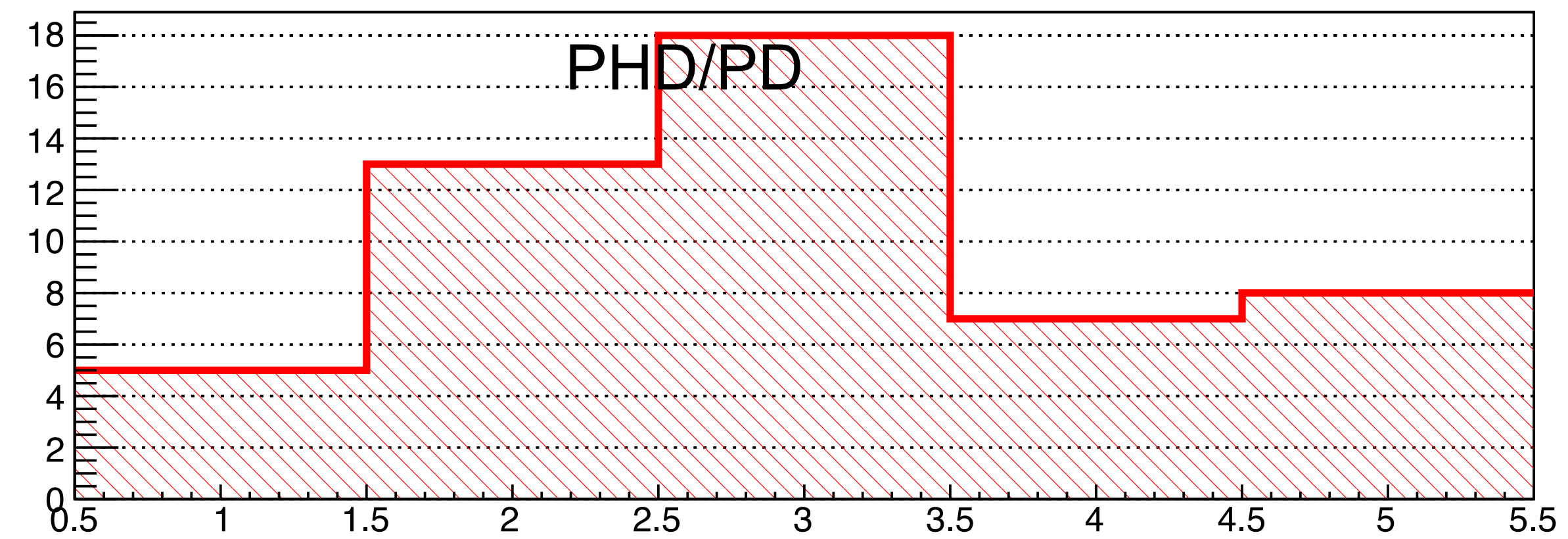
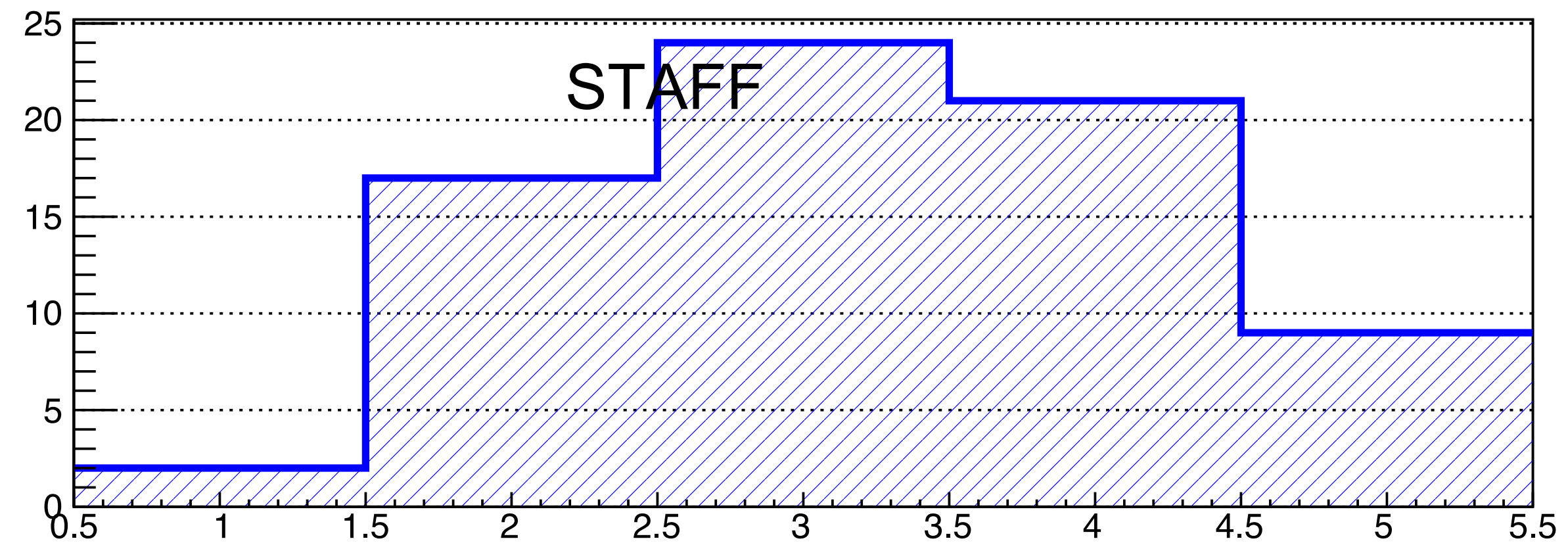
PhD/PD:

- Mainly centered around 3.0
- 11 responses at '5': 3 female 6 male



WHERE SHOULD NIKHEF **IMPROVE** (1=VERY LOW PRIORITY, 5=HIGH PRIORITY)?

CAPABILITIES TO ATTRACT THE BEST PEOPLE

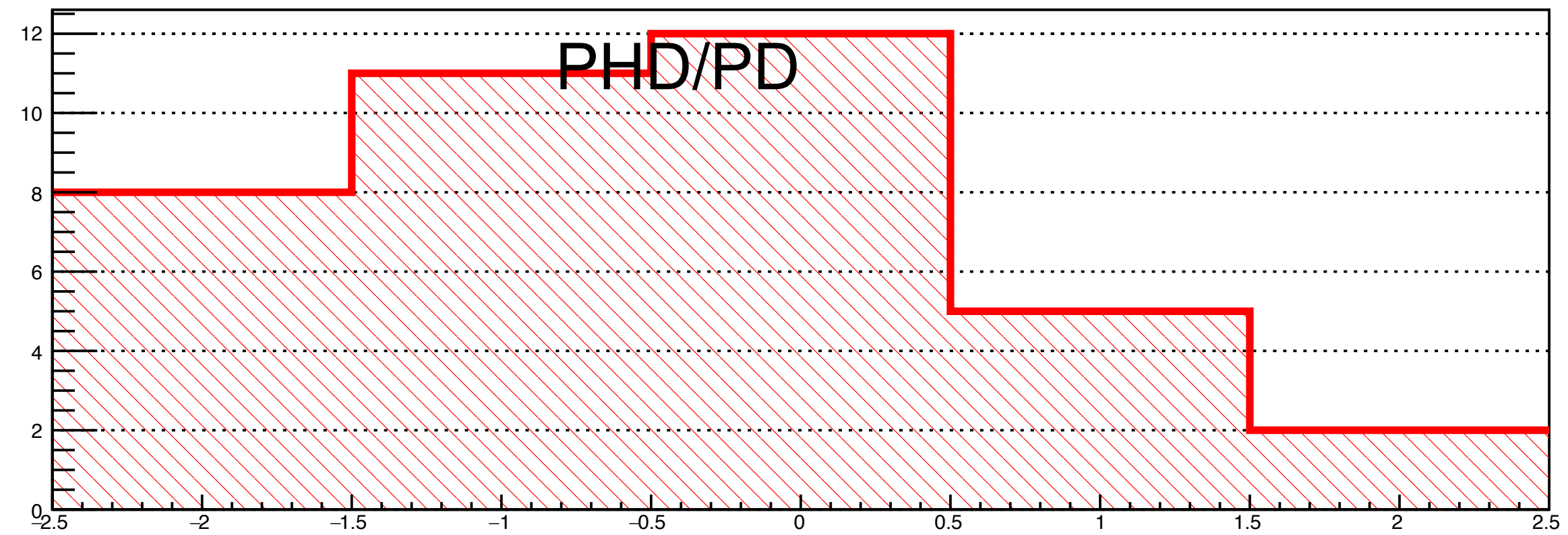
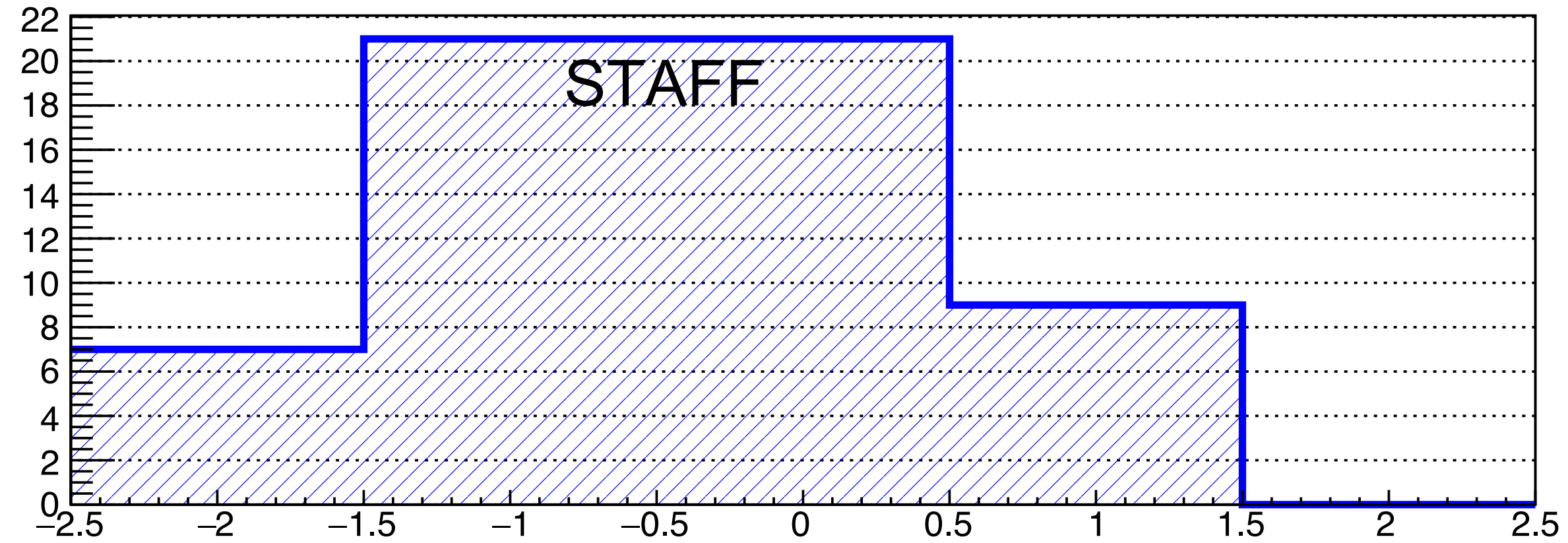


PLEASE RATE THE CURRENT **PERFORMANCE** OF NIKHEF IN THE FOLLOWING TOPICS
(-2: VERY WEAK, 0: AVERAGE, +2: VERY STRONG):

MEASURES TO INCREASE ENVIRONMENTAL SUSTAINABILITY

Staff:

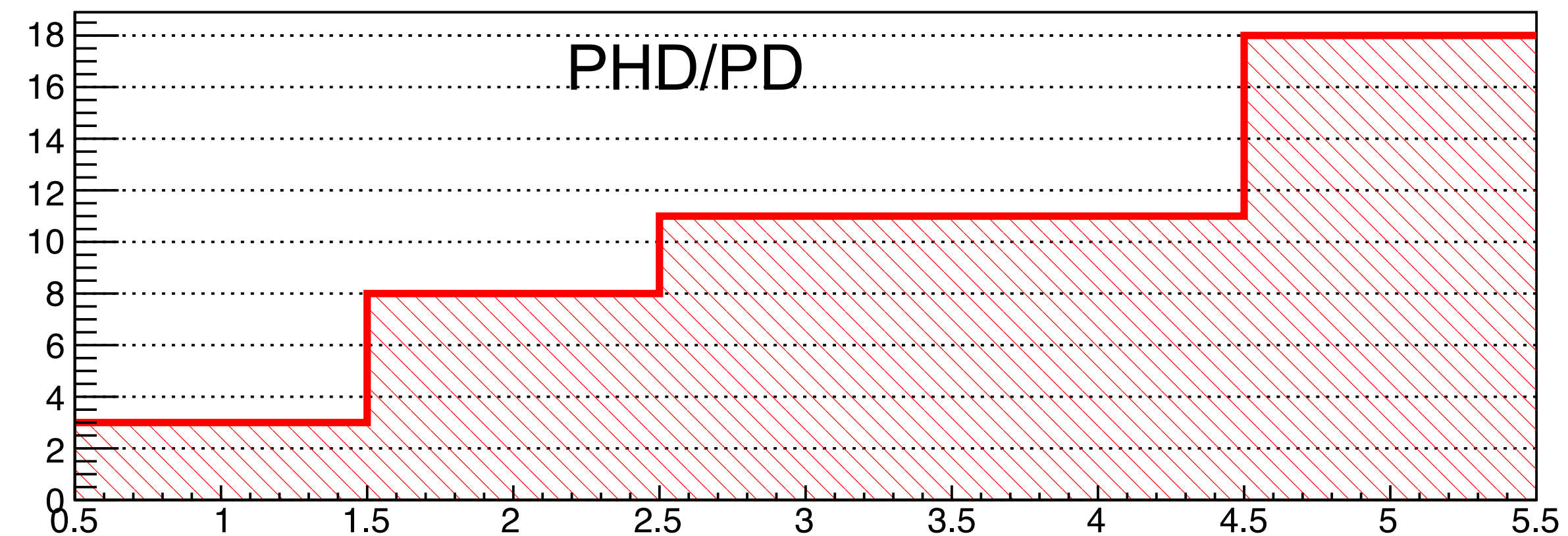
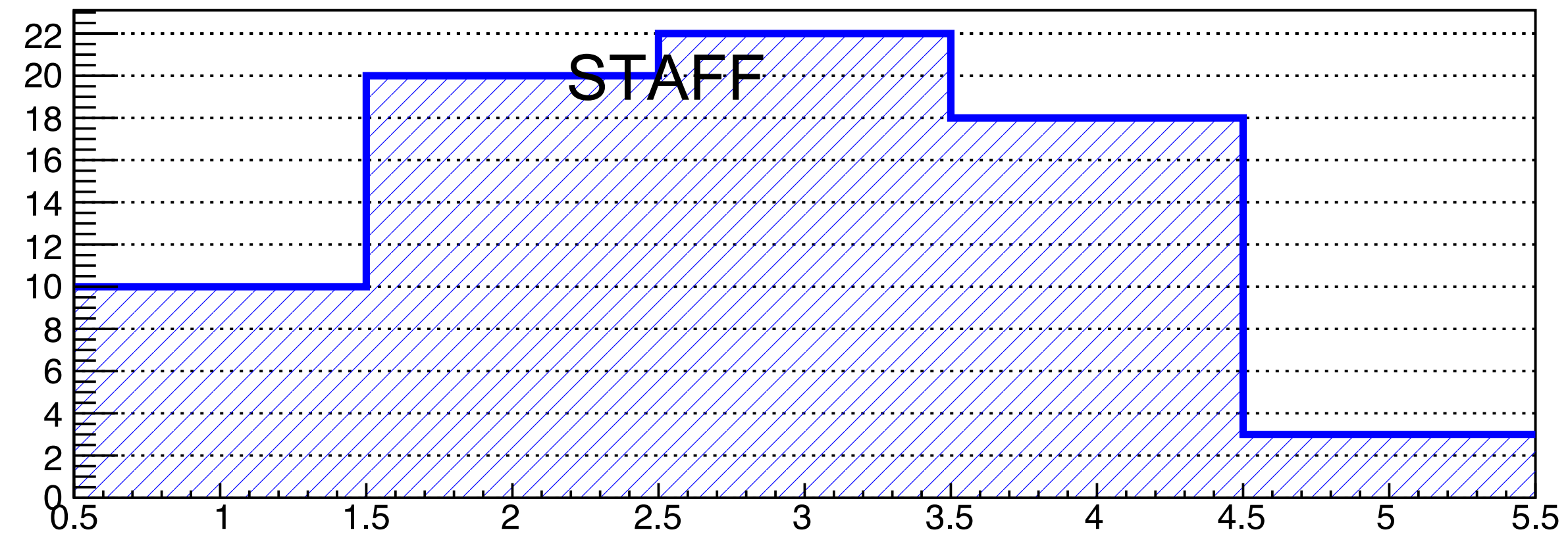
- NWO staff average -0.65
- University staff average -0.28



WHERE SHOULD NIKHEF **IMPROVE** (1=VERY LOW PRIORITY, 5=HIGH PRIORITY)?
MEASURES TO INCREASE ENVIRONMENTAL SUSTAINABILITY

Staff, remember the performance of Nikhef:

- NWO staff average -0.65
- University staff average -0.28

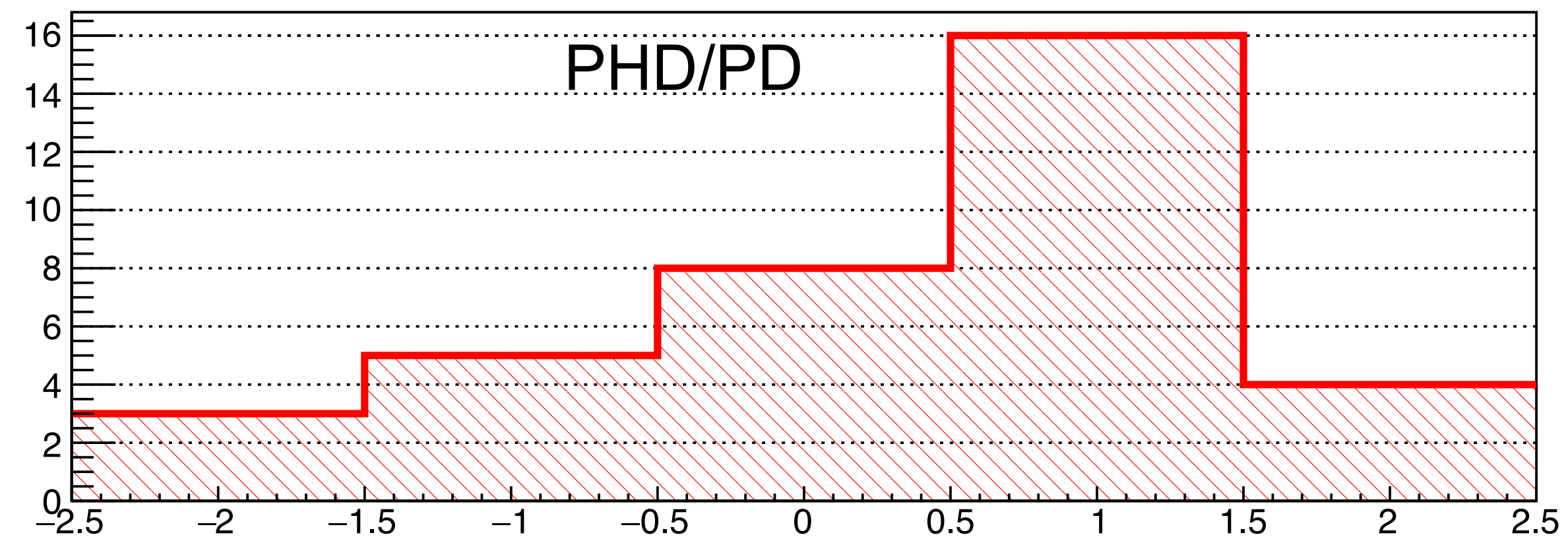
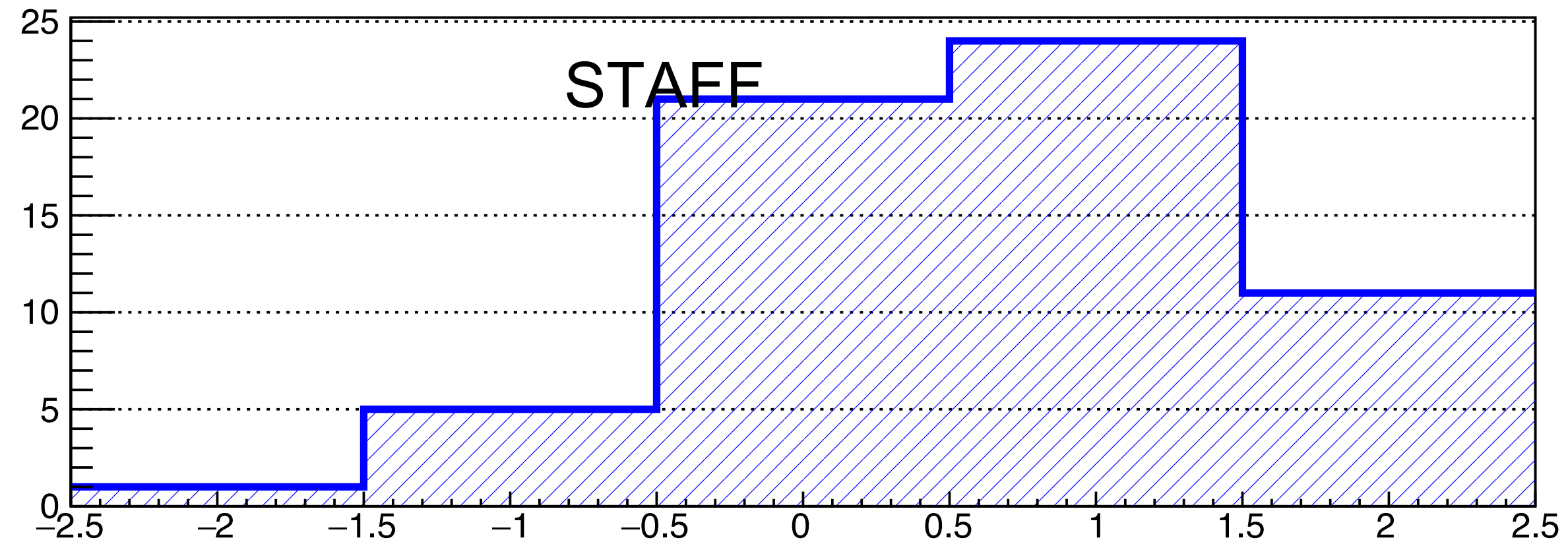


PLEASE RATE THE CURRENT **PERFORMANCE** OF NIKHEF IN THE FOLLOWING TOPICS
(-2: VERY WEAK, 0: AVERAGE, +2: VERY STRONG):

OUTREACH TO SCHOOLS AND STUDENTS

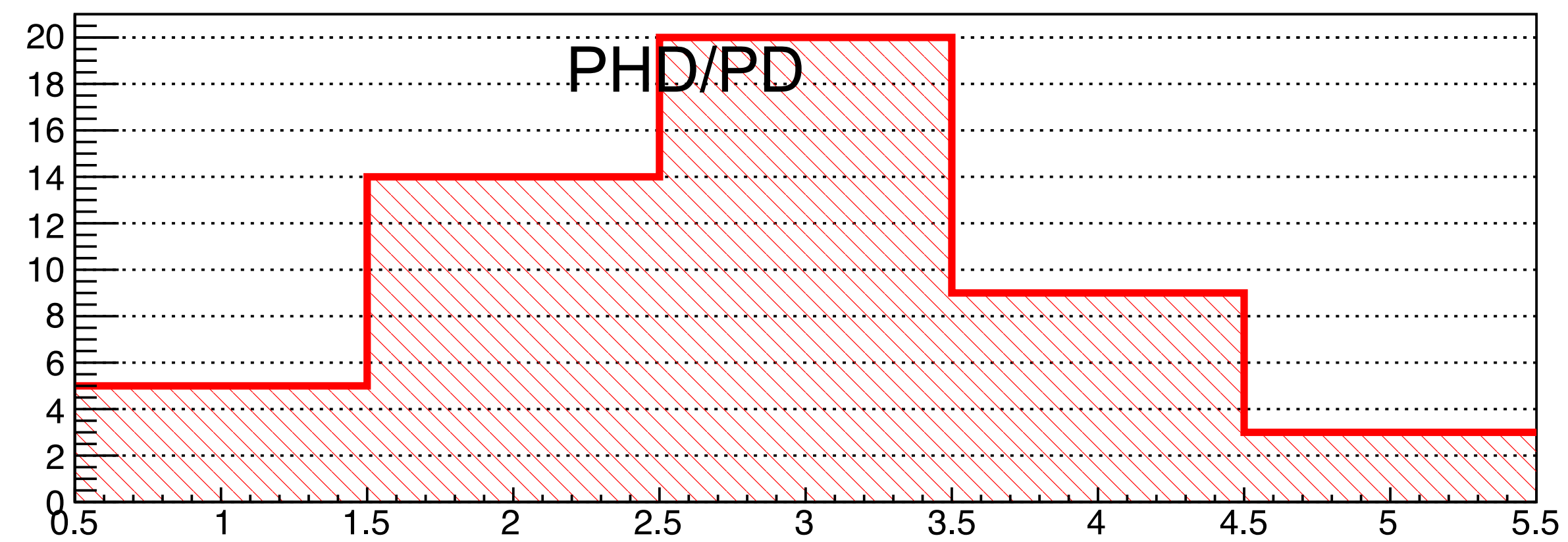
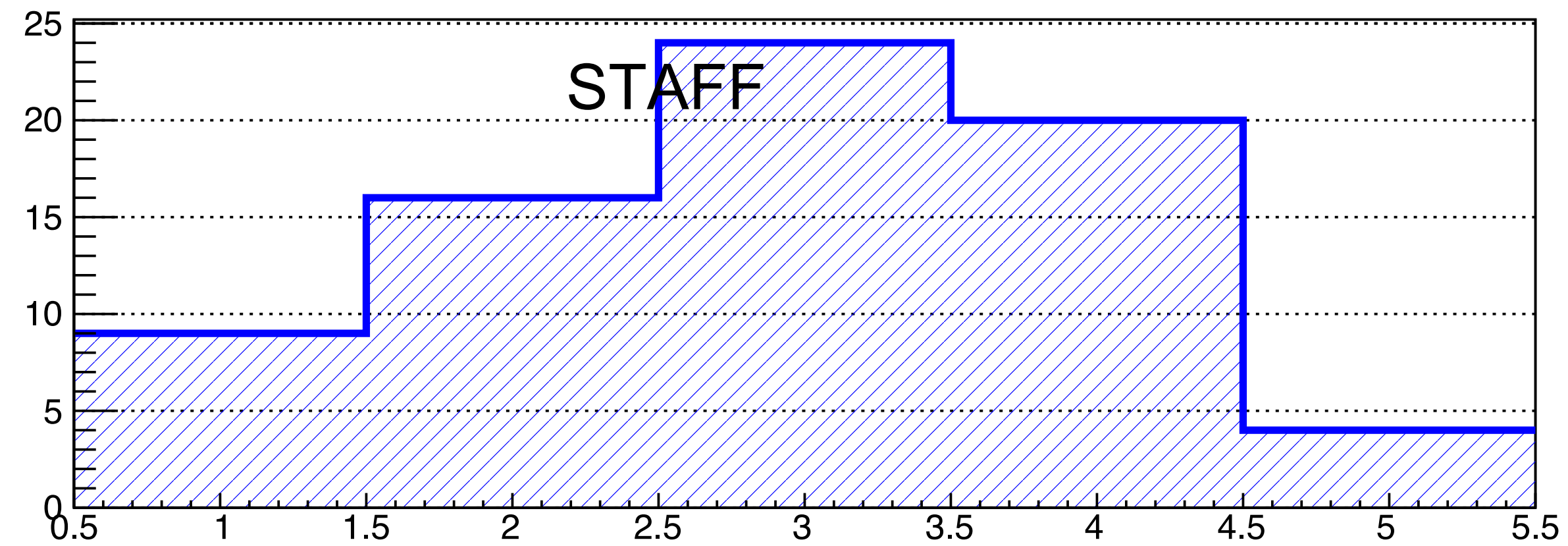
Staff:

- 11 “no opinions”, 10 are employed by universities



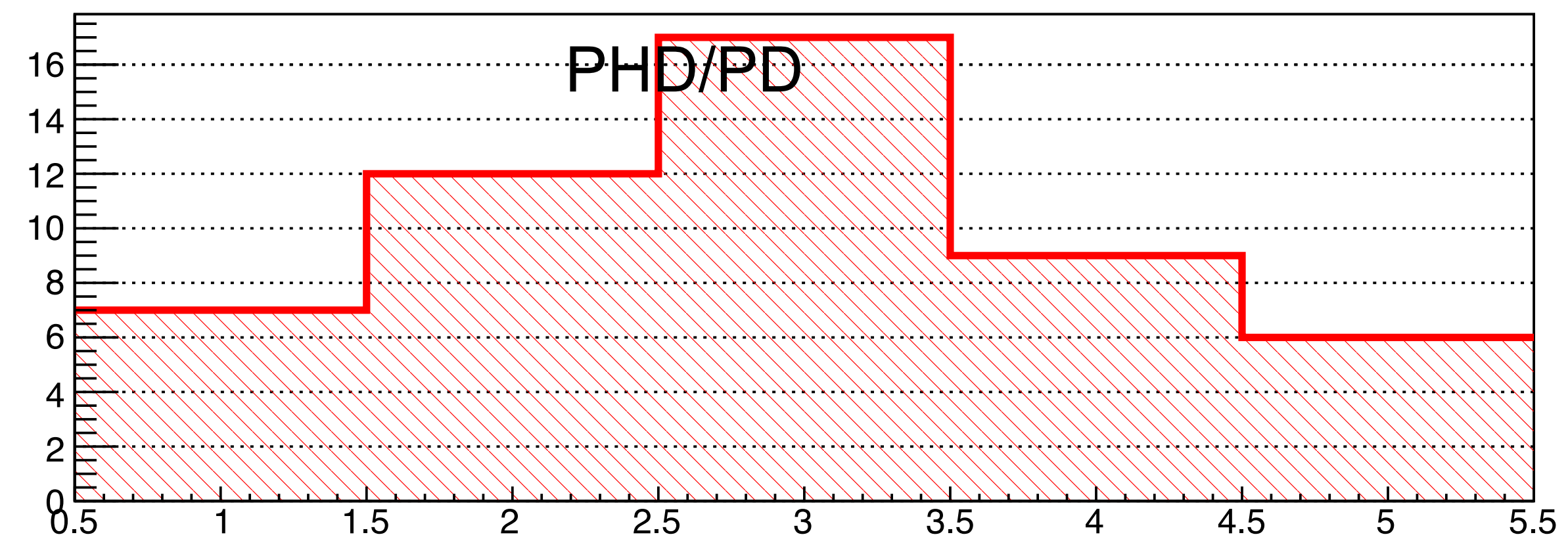
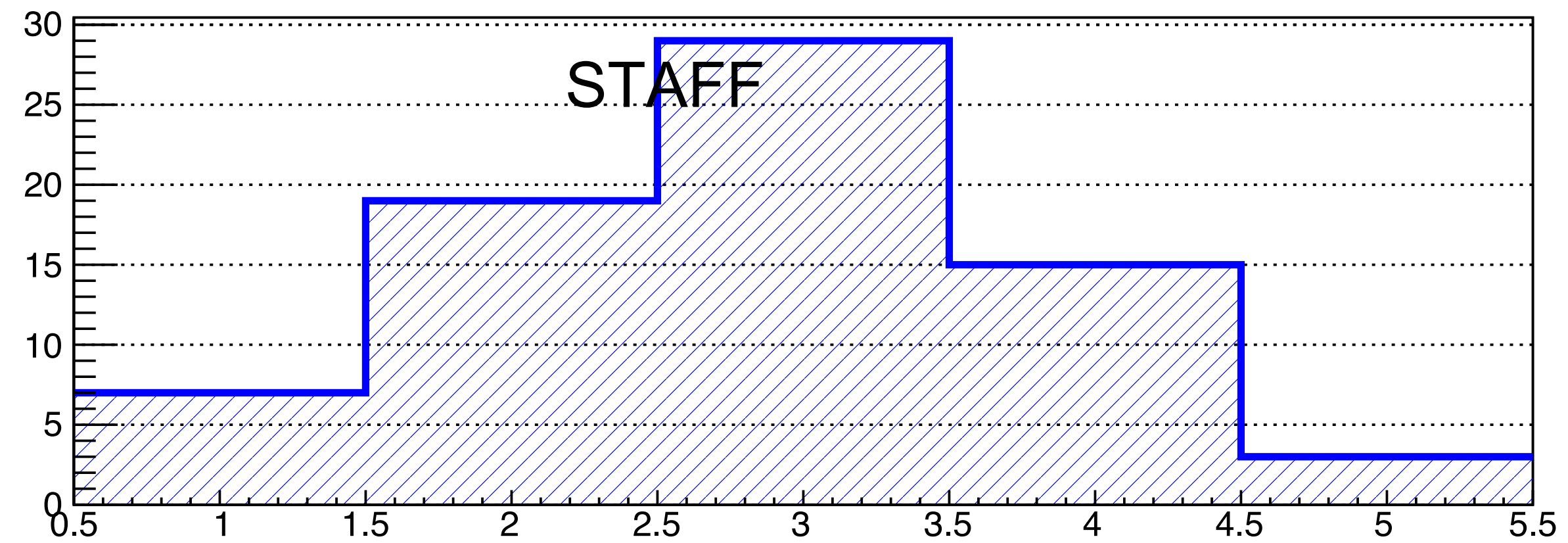
WHERE SHOULD NIKHEF **IMPROVE** (1=VERY LOW PRIORITY, 5=HIGH PRIORITY)?

OUTREACH TO NON-HEP SCIENTISTS



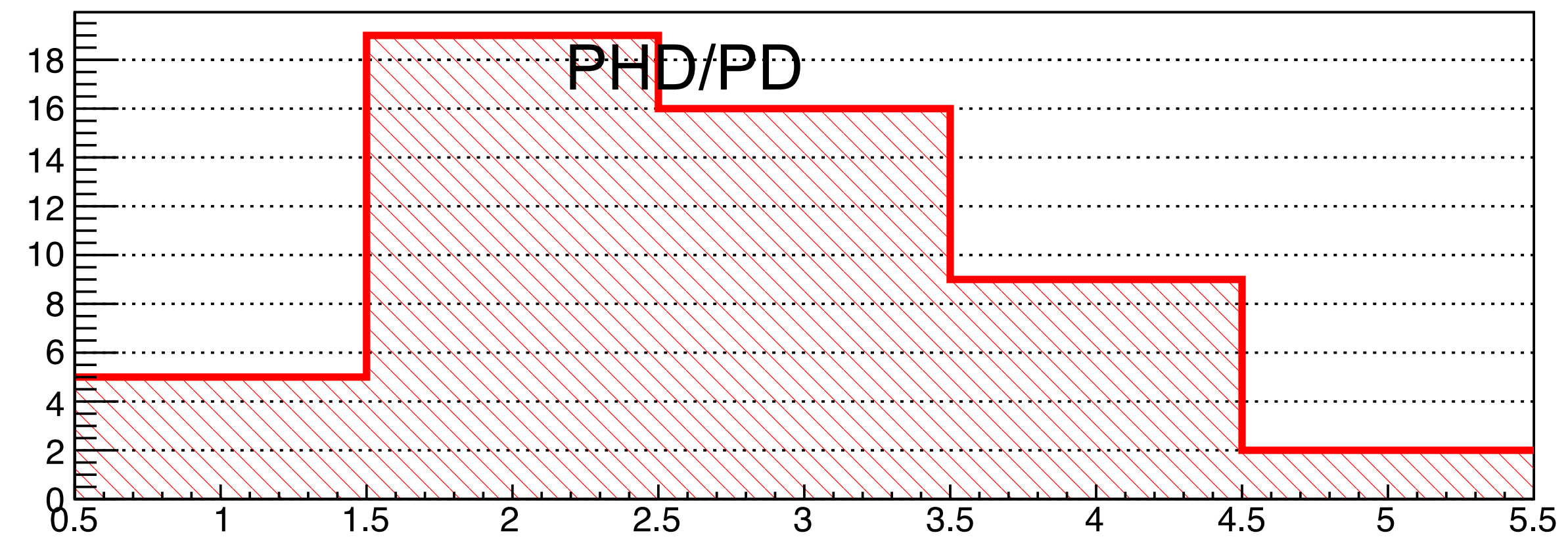
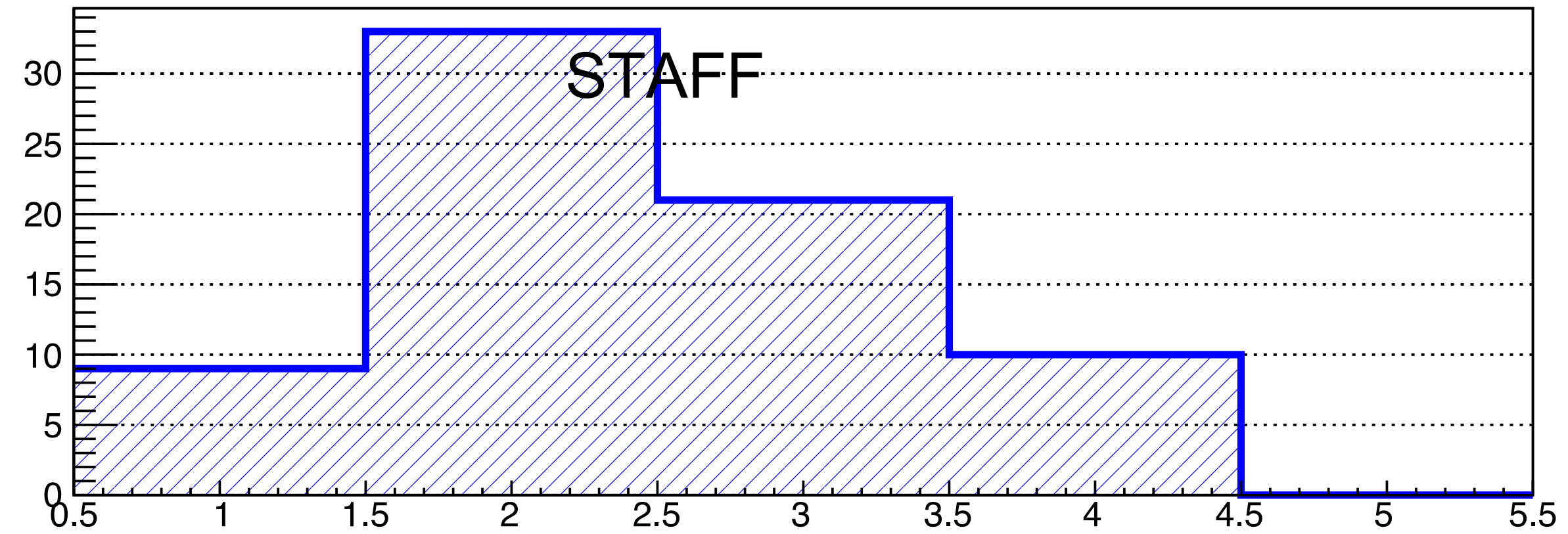
WHERE SHOULD NIKHEF **IMPROVE** (1=VERY LOW PRIORITY, 5=HIGH PRIORITY)?

OUTREACH TO NON-SCIENTISTS



WHERE SHOULD NIKHEF IMPROVE (1=VERY LOW PRIORITY, 5=HIGH PRIORITY)?

SOCIETAL IMPACT

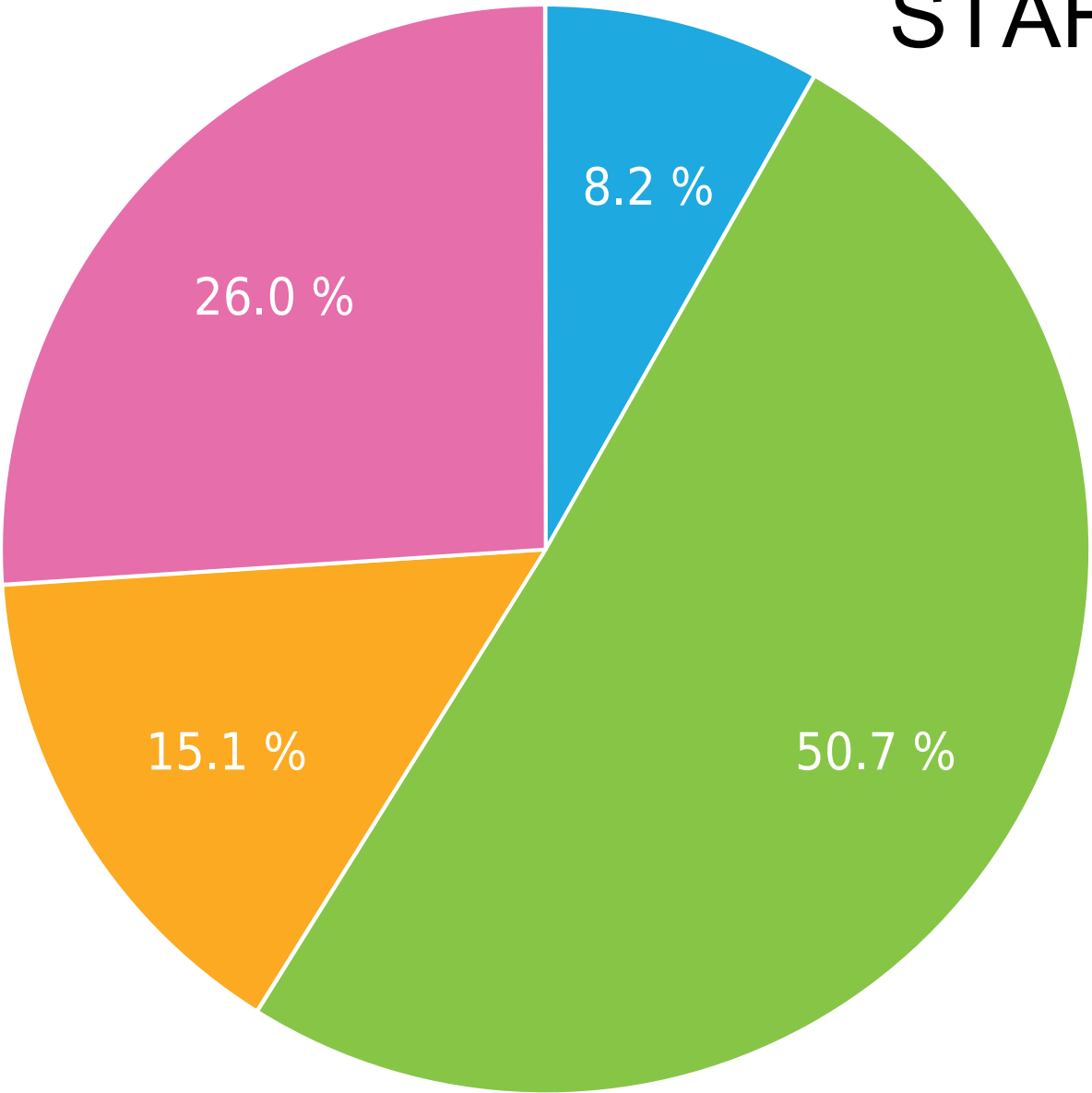


GENERAL

TIME TO COMPLETE QUESTIONNAIRE

Average Time of Completion

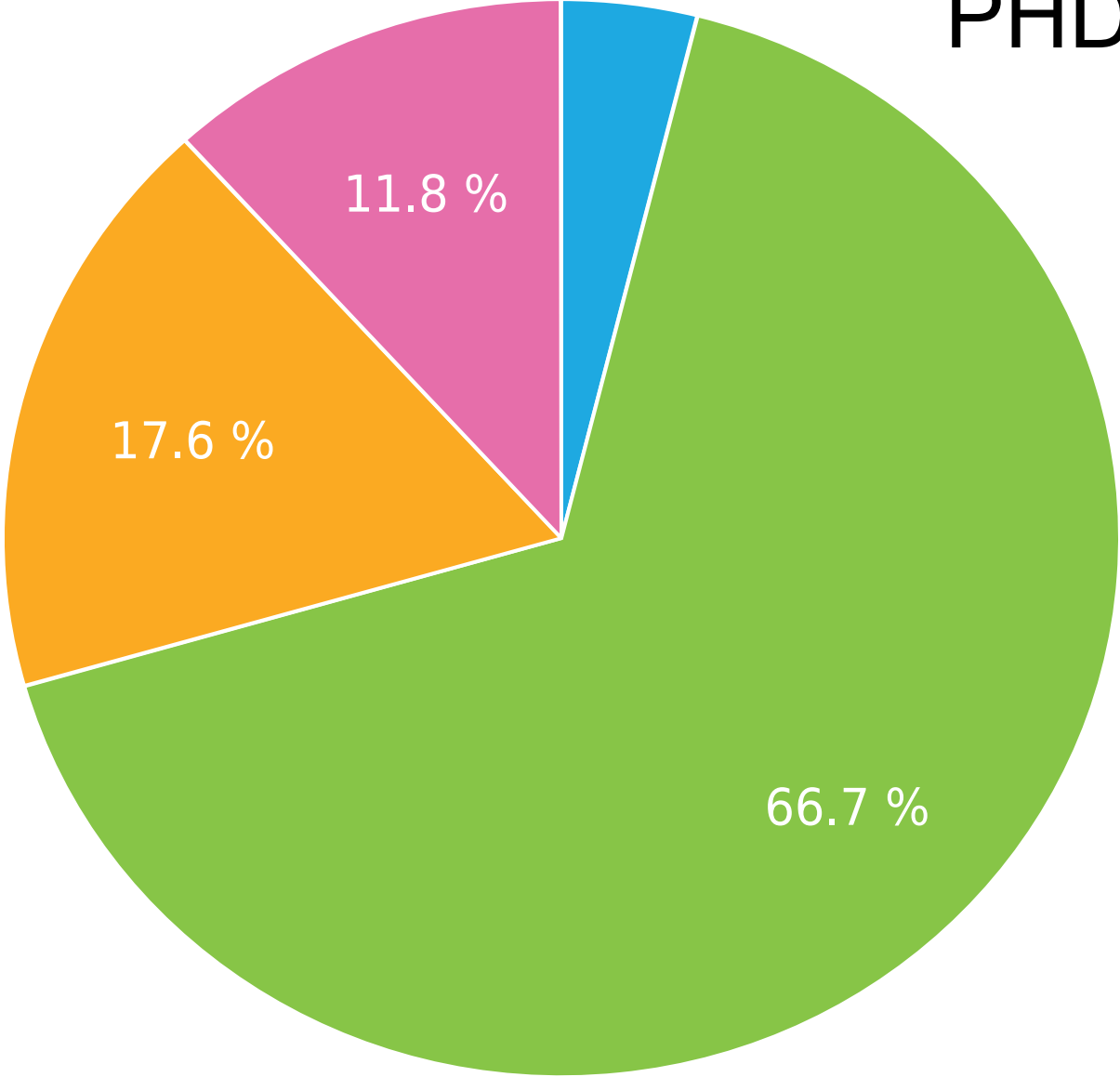
STAFF



- 5-10 min. (8.2 %)
- 10-30 min. (50.7 %)
- 30-60 min. (15.1 %)
- >60 min. (26.0 %)

Average Time of Completion

PHD/POSTDOC

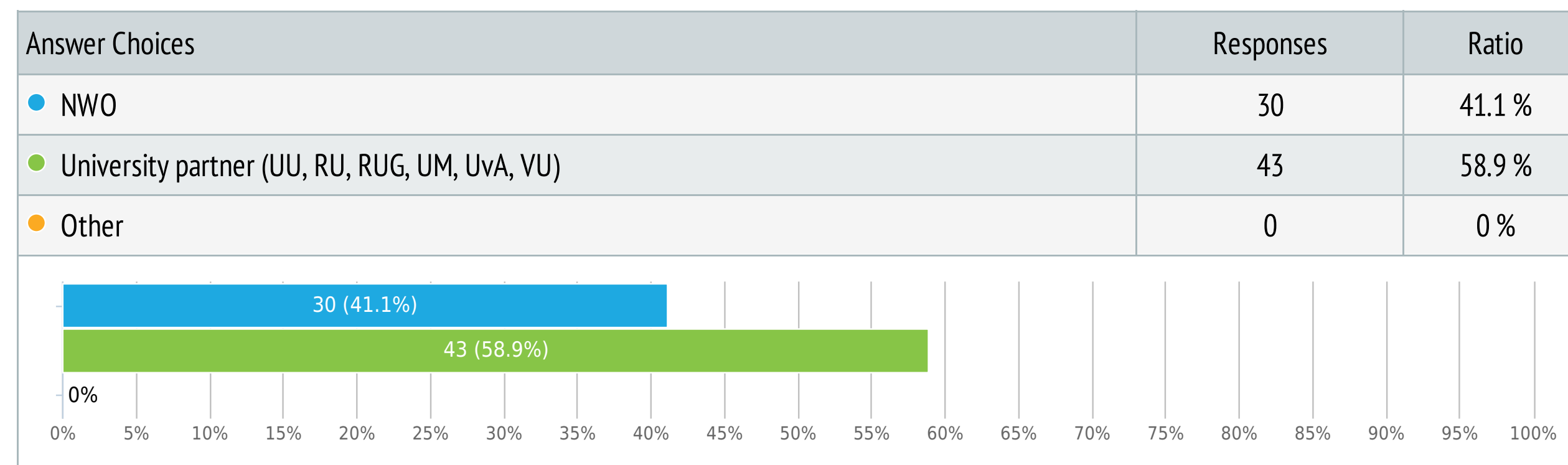


- 5-10 min. (3.9 %)
- 10-30 min. (66.7 %)
- 30-60 min. (17.6 %)
- >60 min. (11.8 %)

Are you employed by NWO or a University

STAFF

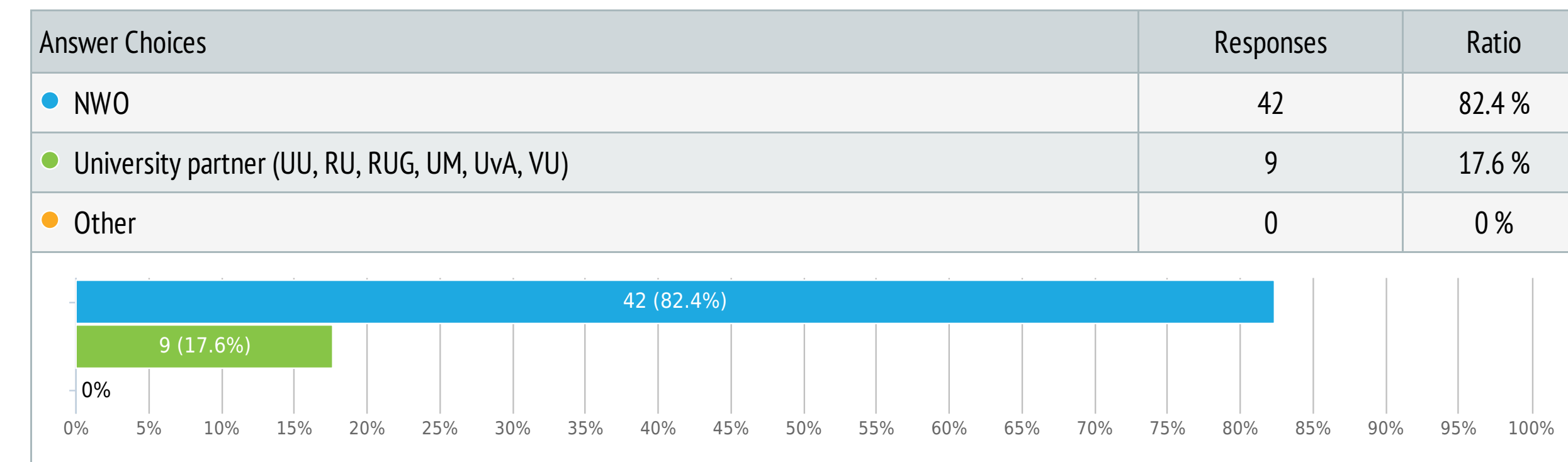
Single choice, answers 73x, unanswered 0x



Are you employed by NWO or a University?

PHD/POSTDOC

Single choice, answers 51x, unanswered 0x

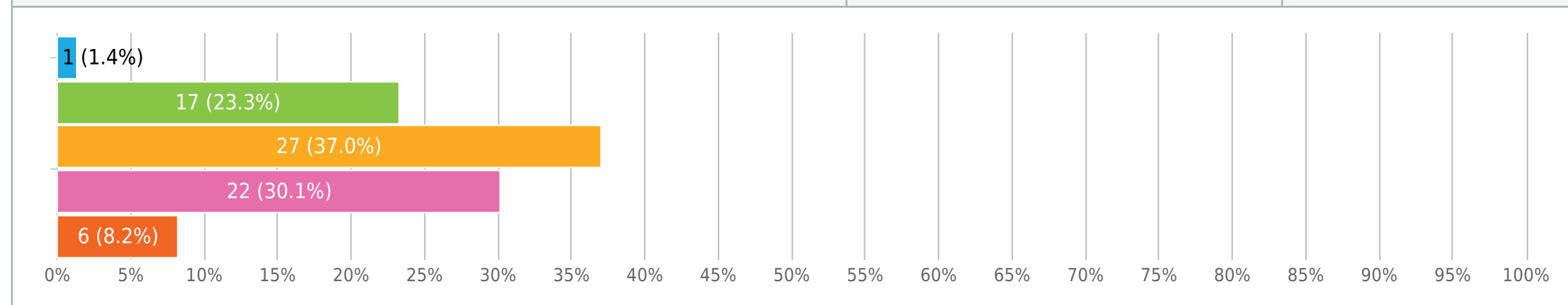


What is your age

Single choice, answers 73x, unanswered 0x

STAFF

Answer Choices	Responses	Ratio
● 20 - 30 years	1	1.4 %
● 31-40 years	17	23.3 %
● 41-50 years	27	37.0 %
● above 51 years	22	30.1 %
● do not want to tell	6	8.2 %

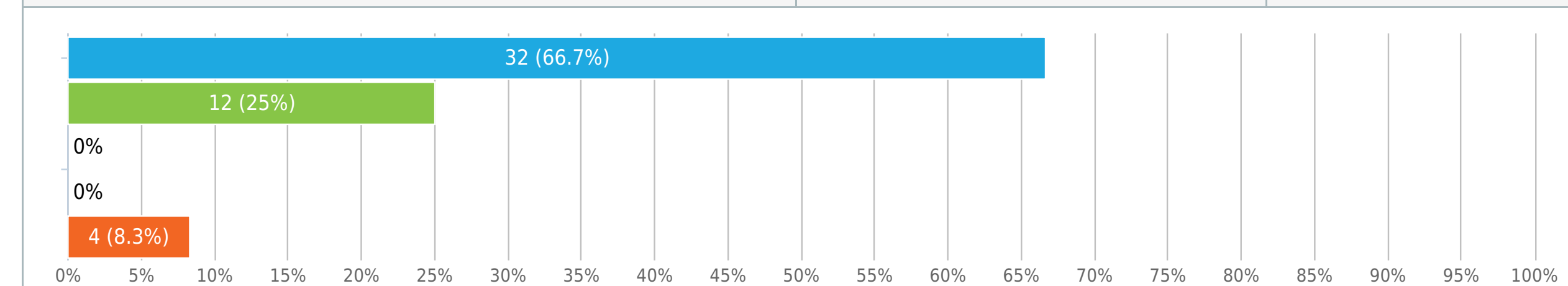


(Optional) What is your age?

Single choice, answers 48x, unanswered 3x

PHD/POSTDOC

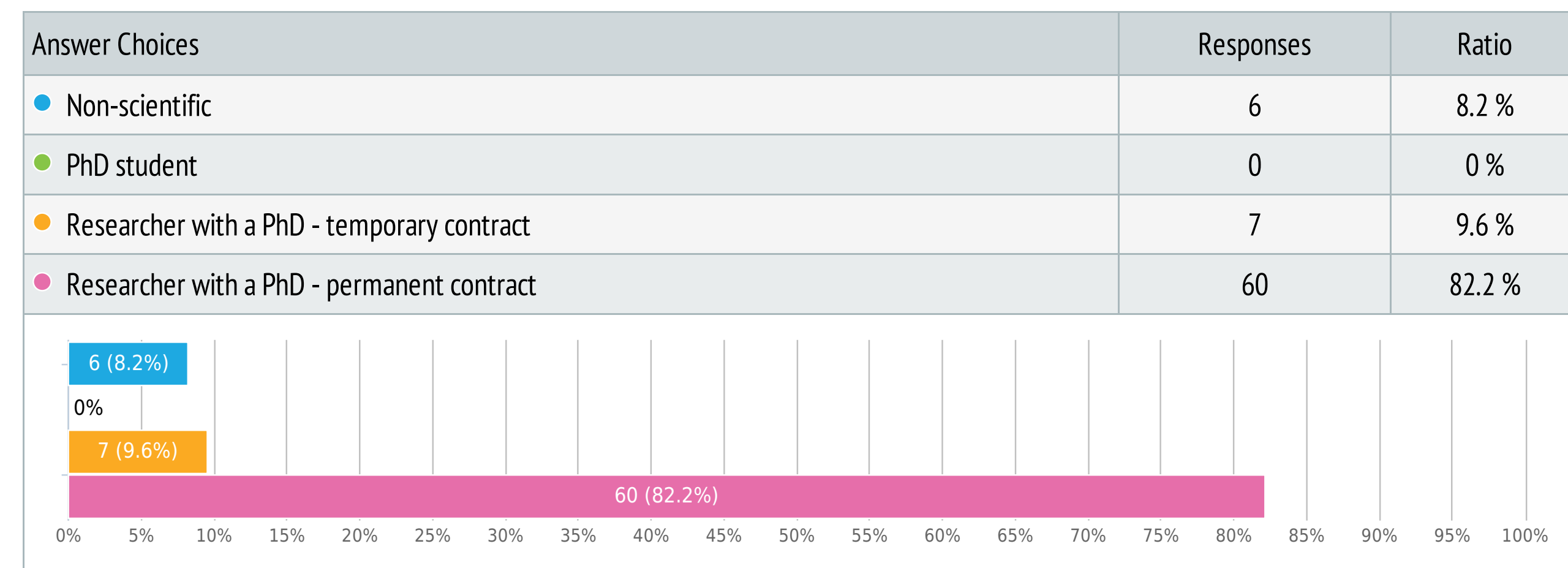
Answer Choices	Responses	Ratio
● 20 - 30 years	32	66.7 %
● 31-40 years	12	25 %
● 41-50 years	0	0 %
● Above 51 years	0	0 %
● Rather not say	4	8.3 %



What is your professional status

Single choice, answers 73x, unanswered 0x

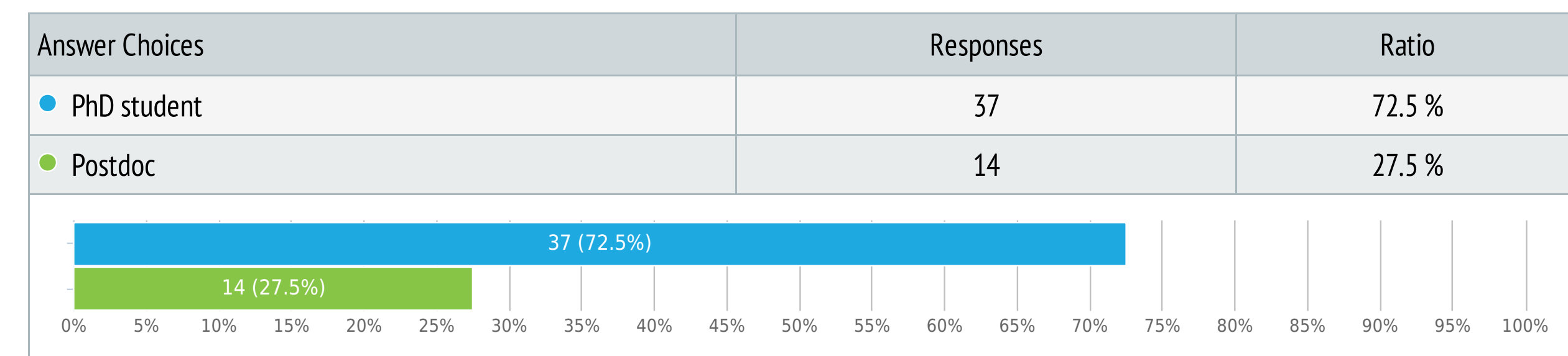
STAFF



What is your professional status?

Single choice, answers 51x, unanswered 0x

PHD/POSTDOC



PHD/PD ONLY - NATIONALITY

(Optional) What is your nationality?

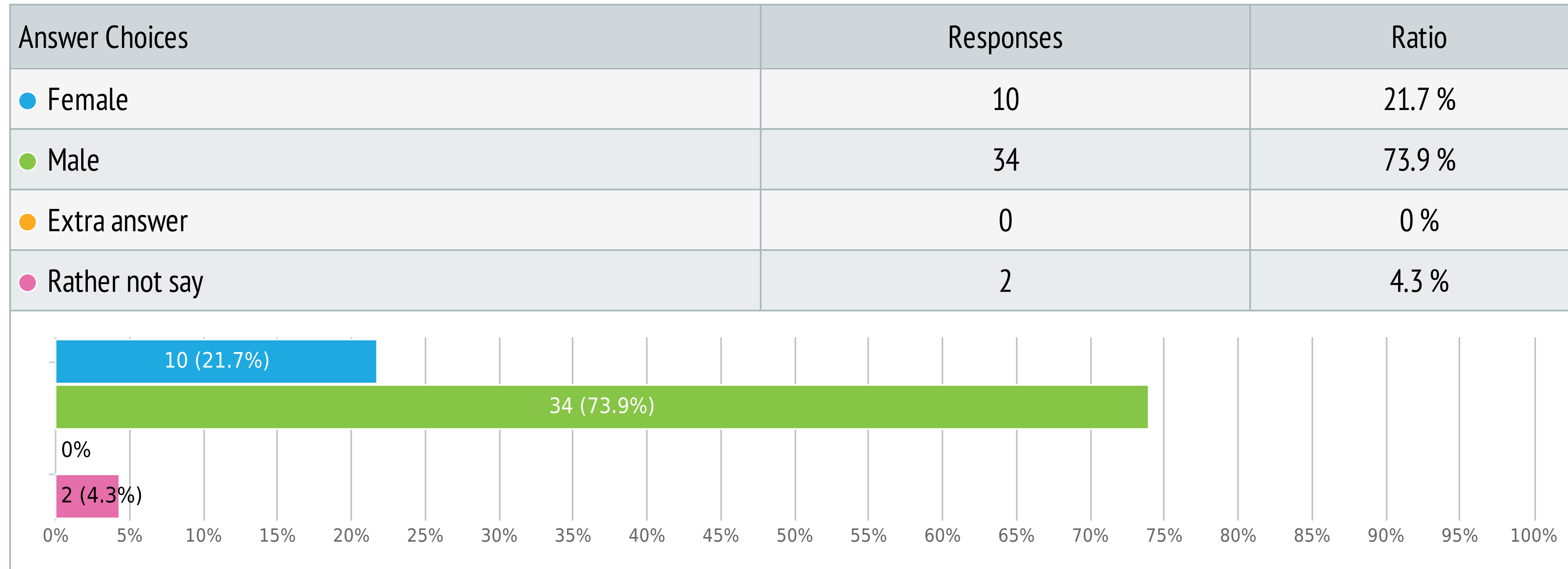
Text answer, answers 39x, unanswered 12x

- (14x) Dutch
- (2x) Swiss
- Irish
- Netherlands
- (2x) Indian
- Ukrainian
- United Kingdom
- Chile
- (6x) Italian
- Danish
- Romanian
- italian
- (2x) Spanish
- Nederlander
- (3x) British
- Ukraine

PHD/PD ONLY - GENDER

(Optional) What is your gender?

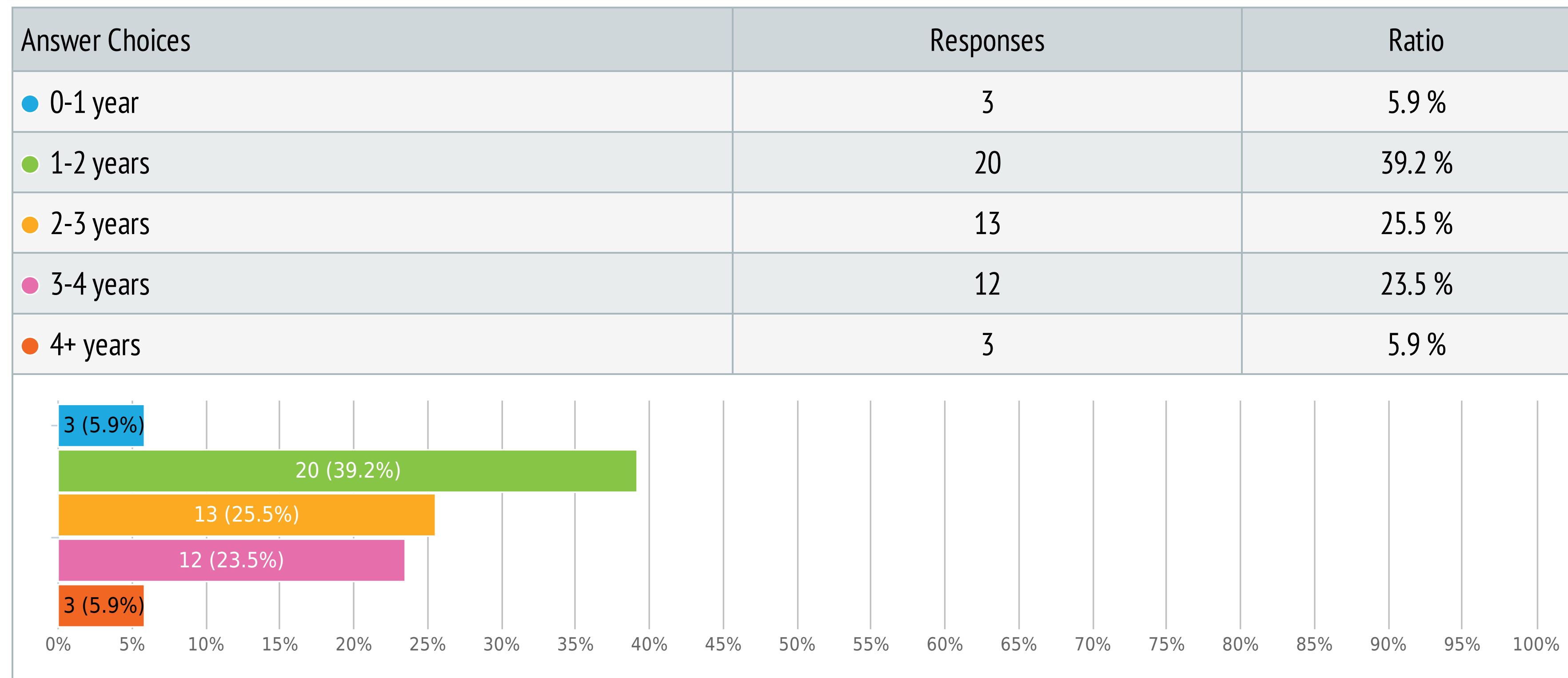
Multiple choice, answers 46x, unanswered 5x



PHD/PD ONLY – TIME@NIKHEF

How long have you been working for Nikhef up to now?

Multiple choice, answers 51x, unanswered 0x

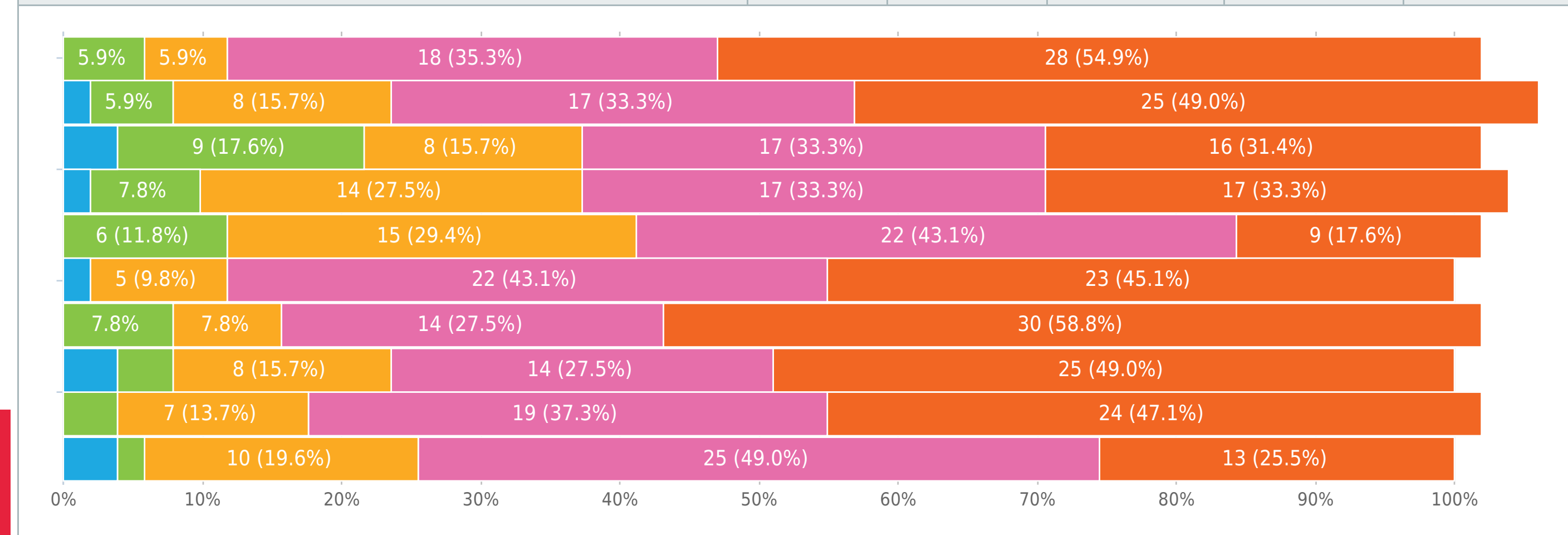


PHD/PD ONLY – WELL-BEING

How satisfied are you concerning (1 = very unsatisfied, 5 = very satisfied)...

Matrix of multiple choices, answers 51x, unanswered 0x

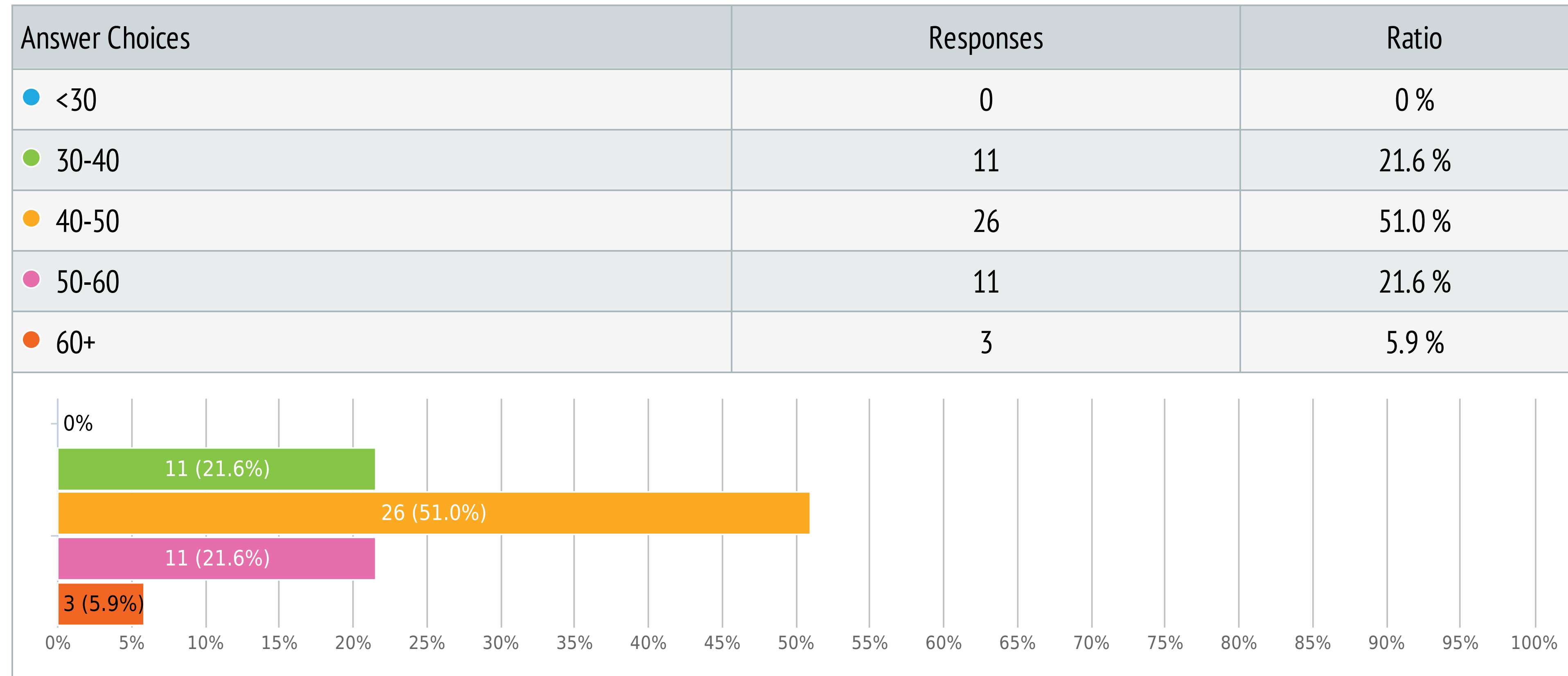
Answer	1	2	3	4	5
The topic of your research?	0	3 (5.9 %)	3 (5.9 %)	18 (35.3 %)	28 (54.9 %)
Your supervisor?	1 (2.0 %)	3 (5.9 %)	8 (15.7 %)	17 (33.3 %)	25 (49.0 %)
The amount of time your supervisor invests in you?	2 (3.9 %)	9 (17.6 %)	8 (15.7 %)	17 (33.3 %)	16 (31.4 %)
The amount of support you receive	1 (2.0 %)	4 (7.8 %)	14 (27.5 %)	17 (33.3 %)	17 (33.3 %)
Your work load?	0	6 (11.8 %)	15 (29.4 %)	22 (43.1 %)	9 (17.6 %)
Nikhef as an institute?	1 (2.0 %)	0	5 (9.8 %)	22 (43.1 %)	23 (45.1 %)
The working atmosphere at Nikhef?	0	4 (7.8 %)	4 (7.8 %)	14 (27.5 %)	30 (58.8 %)
Travel opportunities?	2 (3.9 %)	2 (3.9 %)	8 (15.7 %)	14 (27.5 %)	25 (49.0 %)
Salary?	0	2 (3.9 %)	7 (13.7 %)	19 (37.3 %)	24 (47.1 %)
Learning opportunities?	2 (3.9 %)	1 (2.0 %)	10 (19.6 %)	25 (49.0 %)	13 (25.5 %)



PHD/PD ONLY - WELL-BEING

How many hours do you work per week?

Single choice, answers 51x, unanswered 0x



PHD/PD ONLY – FUTURE CAREER

Answer Choices	Responses	Ratio
● Postdoc in high-energy physics	26	52 %
● Postdoc outside of high-energy physics	7	14.0 %
● Data Science	21	42 %
● Finance	3	6 %
● IT	5	10 %
● Consultancy	5	10 %
● Education	8	16 %
● Science Communication	6	12 %
● I don't know (yet)	26	52 %
● Other, namely:	5	10 %

- Professor in high-energy physics (why is this not an option?)
- Space Industry
- Academic staff in high-energy physics
- Space engineering, space science
- Staff position in high-energy physics

MOTIVATION AND DRIVE

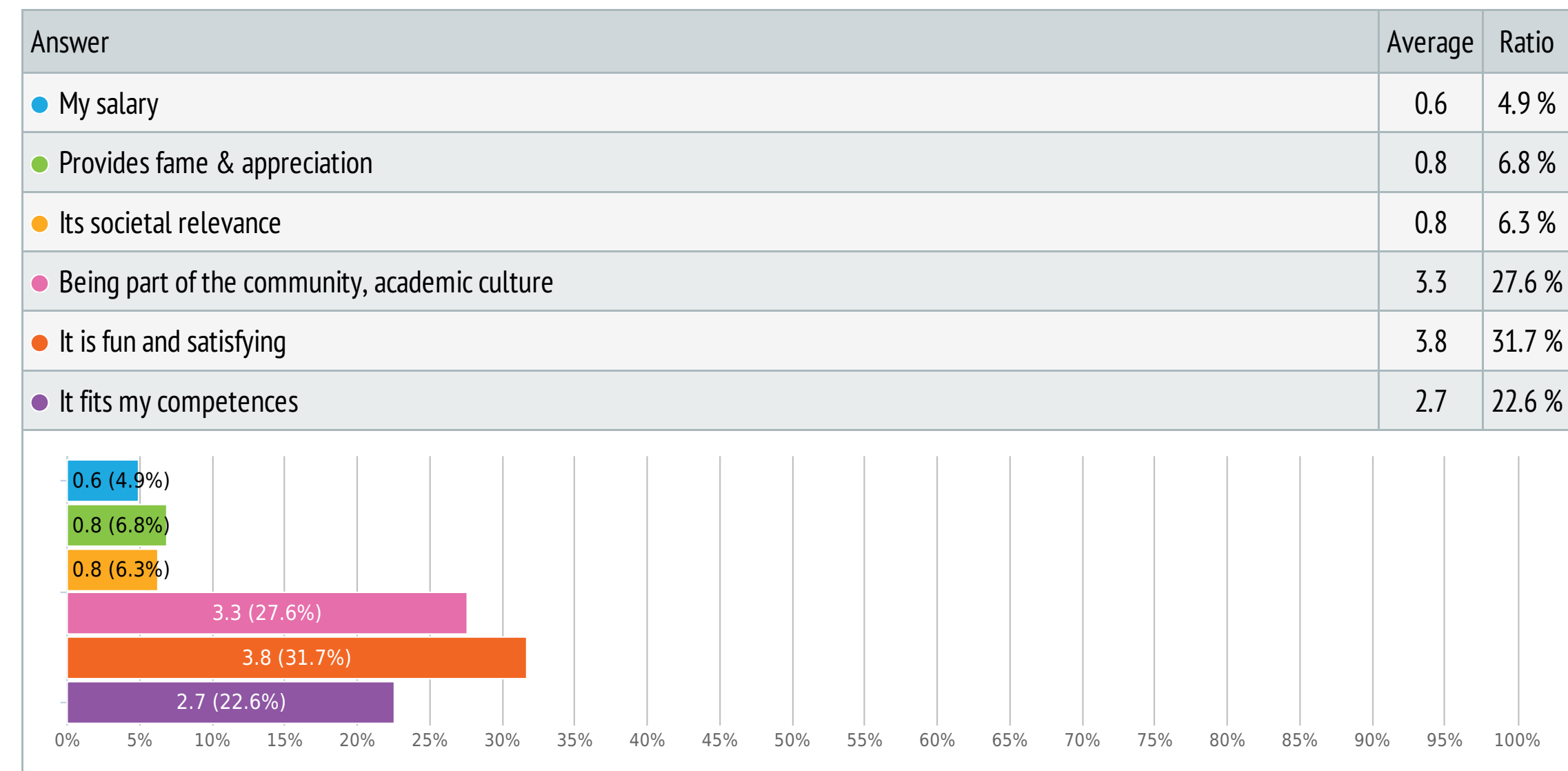
MOTIVATION

What is your motivation to work at Nikhef?

Rating scale, answers 73x, unanswered 0x

STAFF

Assign: 12 coins

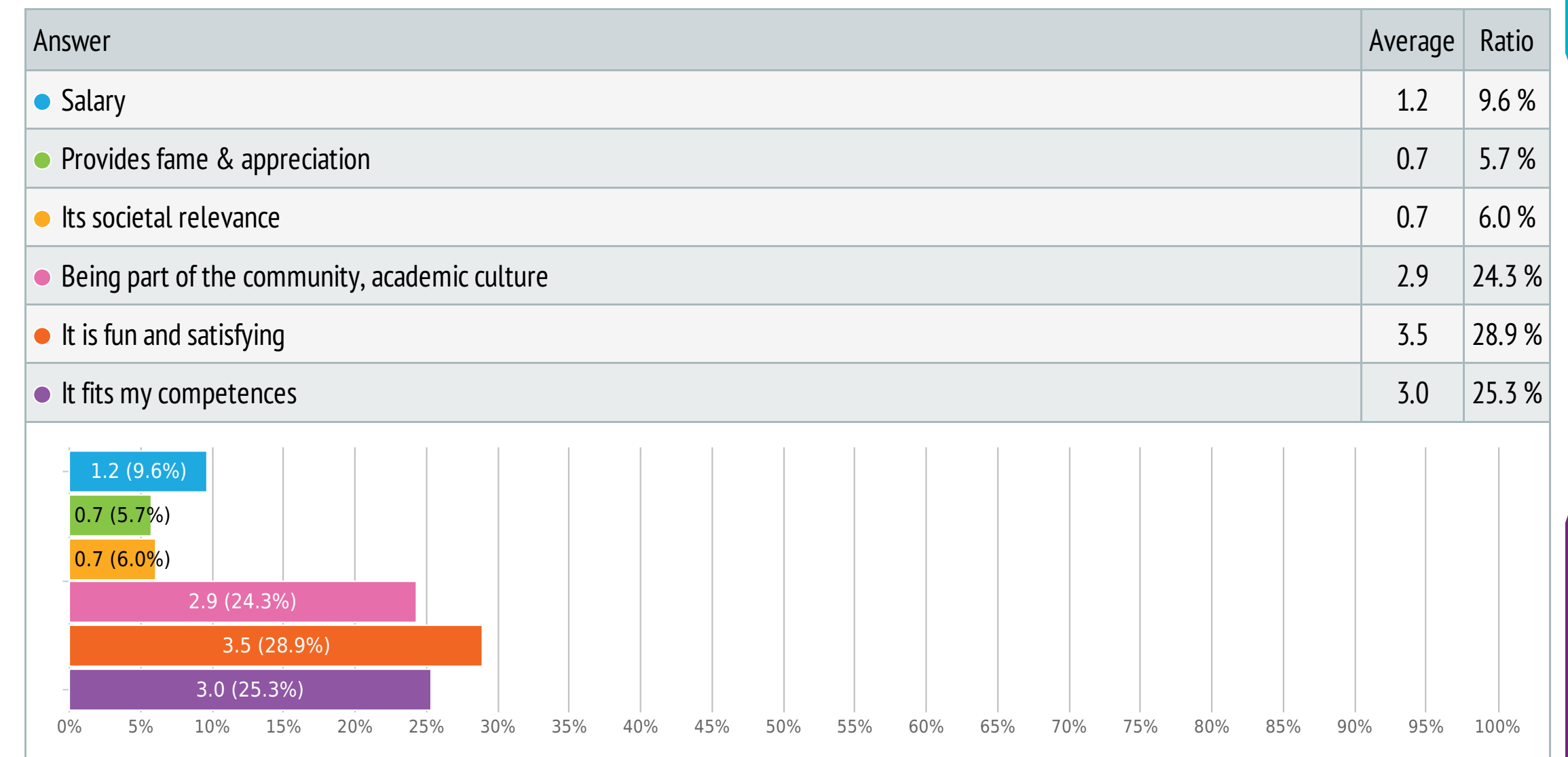


What is your main motivation to work at Nikhef?

Rating scale, answers 51x, unanswered 0x

PHD/PD

Assign: 12 coins



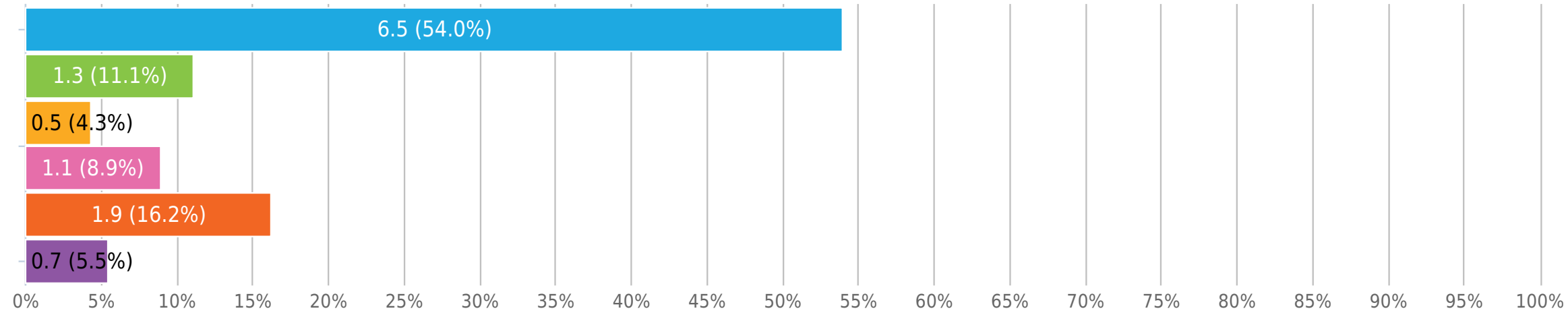
INTRINSIC DRIVE

What is your intrinsic drive to work at Nikhef STAFF

Rating scale, answers 73x, unanswered 0x

Assign: 12 points

Answer	Average	Ratio
● Science curiosity	6.5	54.0 %
● Hardware development	1.3	11.1 %
● Software development	0.5	4.3 %
● Organization, management	1.1	8.9 %
● Teaching, outreach	1.9	16.2 %
● Societal impact	0.7	5.5 %

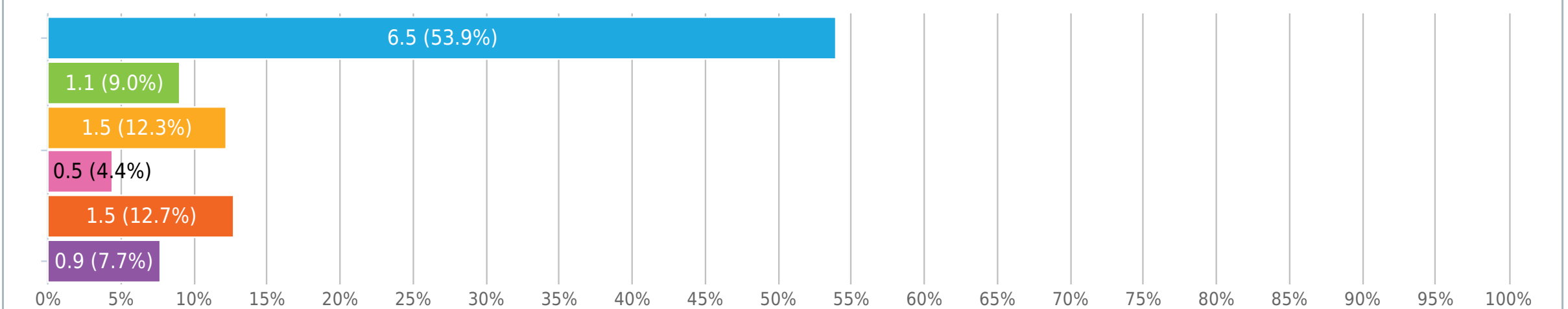


What is your intrinsic drive to work at Nikhef PHD/PD

Rating scale, answers 51x, unanswered 0x

Assign: 12 points

Answer	Average	Ratio
● Science curiosity	6.5	53.9 %
● Hardware development	1.1	9.0 %
● Software development	1.5	12.3 %
● Organization, management	0.5	4.4 %
● Teaching, outreach	1.5	12.7 %
● Societal impact	0.9	7.7 %



IN WHICH PROGRAM ARE YOU ACTIVE AT NIKHEF?

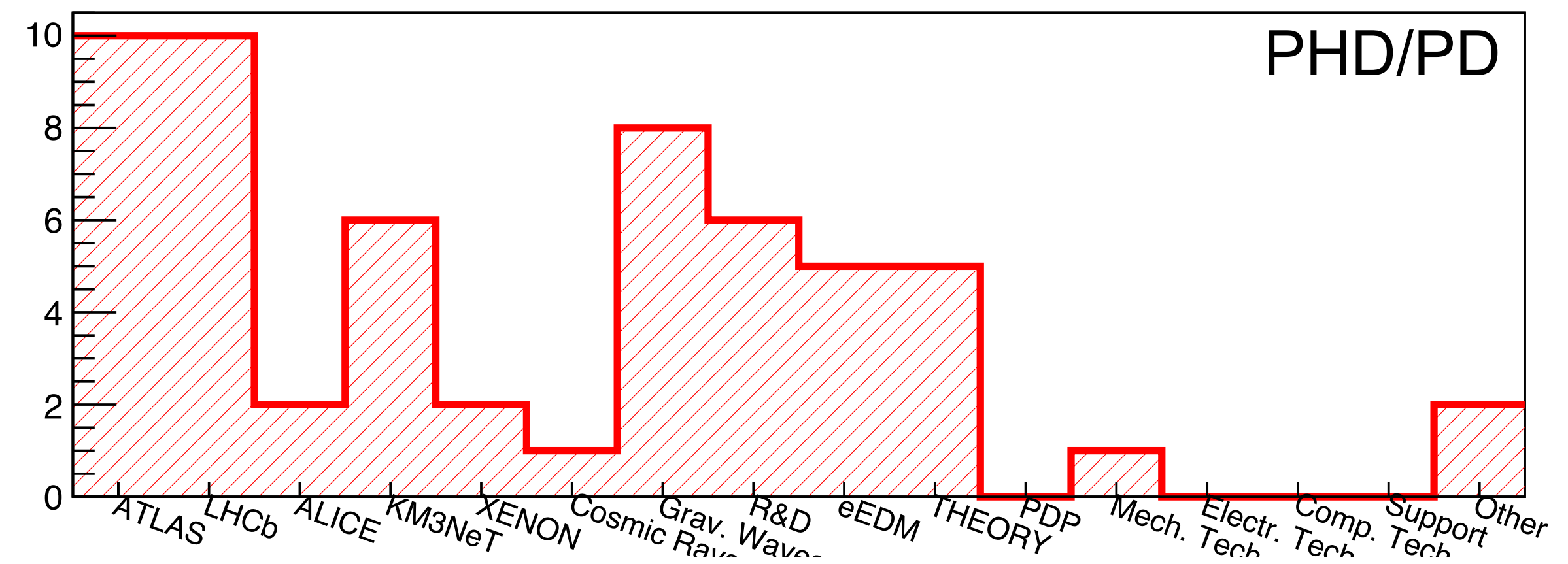
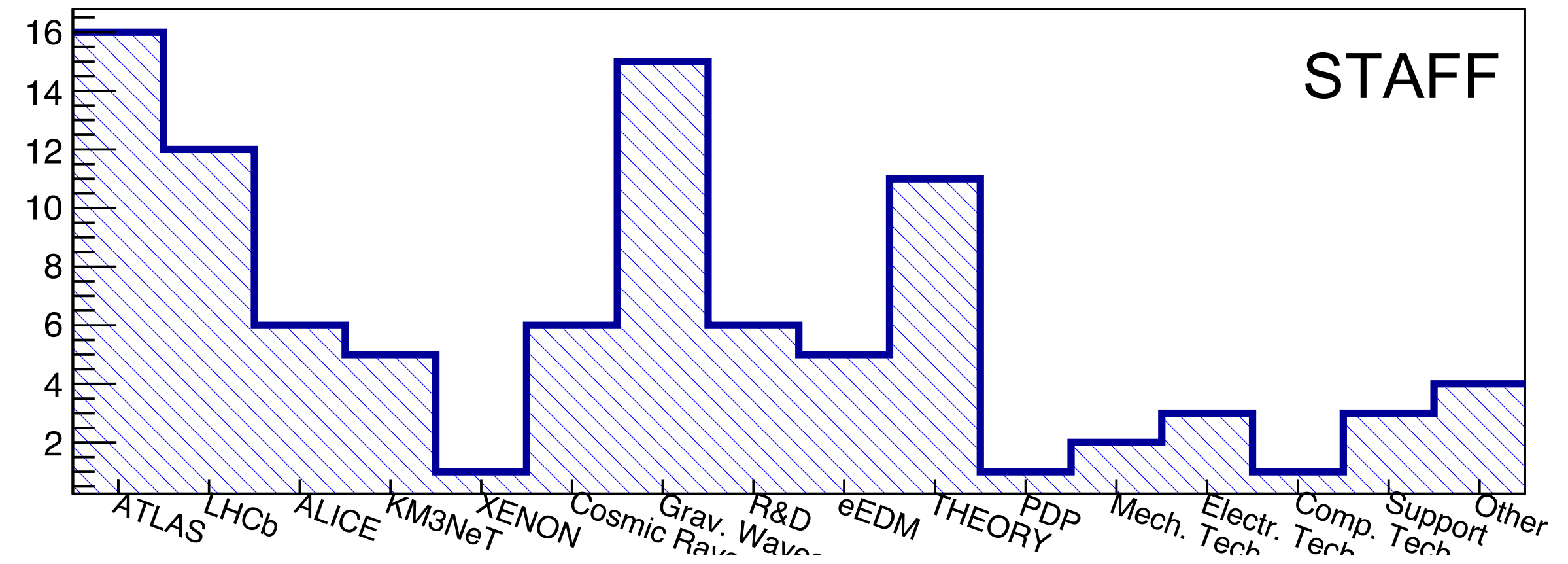
Note that it was possible to give more than 1 answer!

Other activities that were mentioned:

- Astroparticle Physics
- Lepton Collider
- Ptolemy

Only mentioned by PhD/PD:

- DUNE
- HiSPARC



WHAT THE PHD/PD THINK NIKHEF SHOULD BE DOING

The main activities at Nikhef should be

CURRENT PROGRAM

All programs mentioned as first, second and third priority have been given equal weight.

