



Strategic plan PhD Network Netherlands

PNN 2021

Board members

Rosanne Anholt (Chairman and Diversity portfolio)

Meaghan Polack (Vice Chairman / Secretary)

Angela Tol (Treasurer and portfolio of International PhD candidates)

Marc Vervuurt (General board member - Employment conditions portfolio)

Keshen Mathura (General board member - External PhD candidates portfolio)

René de Vries (General board member - Quality portfolio)

Peta Baxter (General board member - Career perspectives and PPP portfolio)

Tess van Doorn (General board member - Open Science portfolio)

Manon te Dorsthorst (General board member - UMC portfolio)

Table of Contents

Introduction	3
Priorities	4
Portfolios	9
Conclusion	17

Introduction

In 1986, a formal, legal framework was established for assistants and researchers in training ('AIOs and OIO's in Dutch), the so-called 'AIO system'. AIOs and OIOs wanted to be involved in this from the start: in 1987 the National AIO (and OIO) Platform (LAIOO) was therefore established. With the introduction of the 'University Job Classification' (UFO) in 2003 and the introduction of the 'PhD system', the terms of 'AIO' and 'OIO' were replaced by the term PhD candidates ('promovendi' in Dutch). In response to these developments, the LAIOO changed its name in 2003 to the 'Promovendi Netwerk Nederland' (PNN).

Thirty-four years later, PNN continues unabated to promote the interests of PhD candidates in the Netherlands. PNN is chaired by an independent board of PhD candidates, and is assisted by an Advisory Board. The members of PNN are the active PhD representation (Local PhD Organizations, or POs) at the various universities, university medical centers (UMCs), and other institutions for higher education, such as Universities of Applied Sciences. PNN can therefore proudly say that it represents all PhD candidates in the Netherlands.

The past year was an eventful year in which social developments, such as the COVID-19 pandemic and the Black Lives Matter protests, also had an impact on academia. In 2020, social safety at universities was high on the agenda, and work was done towards the introduction of a university ombudsperson. At the same time, the COVID-19 pandemic led to research delays and uncertainty surrounding contract extensions for PhD candidates. Working from home was a challenge for many as well. In addition, the discussions continue surrounding the PhD Scholarship Program Experiment, which makes PhD programs cheaper for universities by turning PhD candidates into 'PhD students', despite persistent protests from the 'PhD students', PNN, and other critical parties.

In 2021, PNN will continue to work on social safety, measures that aim to limit the consequences of the COVID-19 pandemic on PhD candidates, as well as preserving the position and rights of PhD candidates as employees of the university, UMC or other institution for higher education. PNN also identifies the following priorities for the coming year: mental health of PhD candidates, recognizing and rewarding PhD trajectories in a way that does justice to all activities and not just research, and PNN's own visibility towards its partners and other relevant parties.

Hereby, PNN proudly presents the policy plan of the board 2020-2021. PNN hopes for a fruitful collaboration with its members and partners in order to be able to support our members and all PhD candidates in the Netherlands this year.

Priorities

A PNN that is visible to its supporters and important parties

There are an estimated **20,000 to 25,000 PhD candidates in the Netherlands**. They carry out a large part of the research and teaching at universities, university medical centers (UMCs) and other institutions for higher education. PhD candidates are represented at institutional level by the local PhD organizations (POs), which are in turn members of PNN. PhD candidates are not always well-informed about the existence of POs, let alone the umbrella organization such as PNN. PNN is regularly contacted by individual PhD candidates who do not know where to turn with a particular problem, and who discovered PNN by accident. In addition to the POs, PNN maintains contact with **relevant parties**, including the government, political parties, trade unions and other interest groups, the umbrella organizations for universities and UMCs, as well as scientific advisory bodies. In addition, PNN is a member of the European Council of Doctoral Candidates and Junior Researchers (Eurodoc). Finally, PNN is frequently asked for **sounding boards, events and interviews** to give PhD candidates a voice.

The visibility of PNN, towards **PhD candidates**, its **members**, as well as **relevant partner organizations**, is important in order to represent the interests of PhD candidates. This means that PNN must be well-known and recognized among PhD candidates, **accessible** to its members, and seen as a **serious partner** by relevant parties. PNN will focus on maintaining and expanding its network, as well as improving its online presence in order to increase visibility and (online) findability. Special attention is given to **groups** that are **difficult to reach**, such as international PhD candidates and external PhD candidates. An (annual) stunt or campaign can contribute PNN's visibility.

Getting a PhD with good employment conditions

A PhD trajectory includes a PhD candidate conducting **scientific research, publishing in scientific journals** and carrying out **teaching tasks**. However, a PhD candidate also performs other tasks in the field of **management, valorization** and **employee participation**. Nevertheless, doing a PhD is not always seen as work, not even within universities or UMCs. PhD candidates are often referred to as 'PhD students', even if they have an employment contract and are therefore employees. The **PhD Scholarship Program Experiment**, as well as similar experiments in the past, actively try to

implement a system in which PhD candidates are registered as students by default, which means they are not protected by a collective labor agreement and receive a grant instead of a salary. This has various negative financial and legal consequences, leading to an increase in uncertainty about their future, for example in relation to mortgage applications and family planning.

PNN's stance on this is clear: doing a **PhD is work**. An employment contract for PhD candidates is therefore essential. Moreover, by investing in good labor conditions, such as quality supervision, talent can be attracted and retained. After all, PhD candidates are necessary to maintain a healthy and future-proof scientific climate in the Netherlands. In addition to drawing attention to the working conditions of PhD candidates and the PhD Scholarship Program Experiment, PNN will support such a vision of the future by creating a **reporting mechanism for inappropriate vacancies and/or contracts**. Furthermore, PNN focuses in particular on the problems caused by the COVID-19 pandemic in cooperation with other parties (including the NFU, VSNU, De Jonge Specialist, and the Ministry of Education, Culture and Science) in order to increase political support for PhD candidates and other so-called ' *early career scholars* '. Finally, PNN will endeavor to increase awareness among PhD candidates of their rights under the collective labor agreement. Too often, PhD candidates have limited awareness of their rights and obligations. Therefore, PNN will continue organizing '**Know your Rights**' **meetings** at universities and UMCs, and will keep encouraging local PhD organizations to pay attention to PhD rights.

A socially safe working environment for PhD candidates

Universities, UMCs and other institutions for higher education are hierarchical organizations. As *early career scholars*, PhD candidates are by definition **at the bottom of the hierarchy** within academia and are **dependent on their supervisor(s) and promotors**. This makes **them vulnerable to unwanted and transgressive behavior**. Moreover, their weak hierarchical position can be an important barrier to openly discussing problems or making use of existing support structures. PNN receives signals that especially when the behavior of the supervisor is the problem, PhD candidates feel that not much can be done. For example, they might fear that reporting an issue will negatively impact their PhD trajectory or have consequences for their academic career. In addition, they might be actively discouraged from reporting an issue by their supervisor or colleagues. Clear rules and guidelines about **changing supervisors and supervisors** seem to be lacking at universities and UMCs. In recent years, the importance of a socially safe working environment has received increasing attention in the media, politics and

institutions. Universities have recently started to introduce the **university ombudsman function**, yet the importance of changing the culture within institutions remains. Recent cases from the University of Amsterdam show that efforts to ensure social safety remain crucial.

PNN advocates for a **socially safe working environment** for PhD candidates. To this end, support structures are necessary, in the form of **confidential advisers** and **university ombudspersons**, who are visible, available, and accessible. Furthermore, setting up an independent, **PhD-specific confidentiality counselor** can lower the threshold for reporting an issue. In addition, clear rules and regulations that make it possible for PhD candidates to change supervisors must be available. PNN will continue drawing attention to the need to address **undesirable and transgressive behavior** as well as the importance of a socially safe working environment. At the same time, PNN keeps its members informed of relevant developments and stimulates the exchange of good practices between its members.

Tackling workload and mental health risks

Academia is a highly **competitive** sector with a **high workload**, focused on **bibliometric measures** to quantify scientific output (such as h-indexes). In recent years, this has been increasingly recognized, and attention is given to the high prevalence of chronic stress and burnout amongst academics. PhD candidates are also burdened by this high workload. National and international studies amongst PhD candidates paint a disturbing picture of **(a high risk of) serious psychological illnesses**, including depression, anxiety and burnout. It is unquestionable that the COVID-19 pandemic and the associated social isolation and research delays have exacerbated existing problems. Here, special attention to **international PhD candidates** is warranted, as they often have a less-extensive social safety net compared to Dutch PhD candidates. Moreover, they will not always be able to travel back to their home country. Psychological illnesses as a result of a high workload and the COVID-19 pandemic affect everyone in academia. If workload is not cut back however, we not only maintain the current system but also run the risk of talented young academics not opting for an academic career.

Doing a PhD must be possible in a way that does not endanger one's (mental) health. This means that the **workload must be reduced** and that the academia should focus more on **quality instead of quantity**, as well as the performance of teams of researchers instead of individual academics (see also the next point

about the new Recognition and Reward). PNN believes that more attention should be paid to mental health among PhD candidates. **Support structures** must be **visible, available, and accessible** to all PhD candidates. This should also apply to those without an employment contract; PNN occasionally receives signals that scholarship PhDs are turned away from the company doctor because they are not employees. At the same time, a number of institutions are appointing **PhD-specific psychologists**. PNN is supportive of this positive development, but also pleads to highlight the importance of addressing the root causes of mental health issues, and not just the tackling of symptoms. PNN will work with relevant partners, such as WOI in Action, on the themes of work pressure and mental health. In addition, along the lines of the social safety strategy, PNN will continue to draw attention to the issues faced by PhD candidates, inform its members about these, and encourage members to exchange good practices.

Recognizing and rewarding PhD programs

The emphasis in assessing PhD trajectories still lies on quantitative output measures, such as the number of (published or publishable) articles or the number of chapters in the dissertation. PhD candidates often perform many other tasks however, such as teaching, or they are active in the field of societal impact, management and employee representation. PNN is positive about the **Recognition and Rewards** movement. Recognition and Rewards is, among other things, about shifting the focus from quantity to quality. It also gives scientists more room to focus on **developing their unique qualities** in, for example, research, education, impact, leadership, or, for academics at UMCs, patient care. PNN notes that PhD candidates are not yet involved in the discussions on Recognition and Rewards, neither on the local or national level. To successfully implement Recognition and Rewards, the movement must engage the **future generation of academics**.

PNN advocates for a system in which the **broader range of tasks and activities** of PhD candidates are recognized and rewarded. The new Recognition and Rewards movement must make it possible to include all activities in the **assessment of the PhD trajectory**, without this being translated into a **long list of additional criteria** that will have a negative impact on workload. At the same time, the diversity of types of PhD programs indicates a need for tailor-made solutions. Coming period, PNN will work, together with its members, on developing a vision about what Recognition and Rewards means for PhD candidates and the assessment of PhD trajectories. In addition, PNN will expand

its network with regards to this particular theme and, where possible, contribute to existing initiatives, to ensure that PhD candidates are actively involved in the change to a new way of Recognizing and Rewarding academics.

Portfolios

1. Employment Conditions

Portfolio focus points - Employment Conditions

- Increase awareness of rights among PhD candidates.
- Improvement of employment conditions for PhD candidates.
- Attention for non-compliance with collective labor agreements by employers.

PNN is committed to improving compliance with collective labor agreements for employee PhD candidates at universities, UMCs and other institutions for higher education. All too often, PNN receives signals from its members that current agreements in the collective labor agreement are not complied with, such as the payment of transition allowances, and pregnancy, birth and parental leave. PNN also observes that the collective labor agreement is not always sufficient: many doctoral candidate-specific clauses, such as the possibility of a contract extension for the duration of long-term sick leave, employee representation or an internship related to the doctoral research, fall under the so-called CAN provisions, which means that institutions are not obliged to extend these contracts. Simultaneously, the PNN PhD Survey 2020 also shows that PhD candidates have limited awareness of their rights under the collective labor agreement.

PNN maintains close contact with relevant partners regarding employment conditions. For universities, the PNN collaborates closely with the Association of Dutch Universities (VSNU), and it is involved in the sector council for Scientific Research and Education, part of the General Union of Educational Personnel (AOB). PNN also maintains contact with the Dutch Federation of University Medical Centers (NFU), as well as the trade unions FNV Care and Welfare, and CNV Care and Welfare. In addition to establishing and maintaining contacts, PNN is also committed to organizing information meetings to increase awareness about the rights and obligations of PhD candidates: the so-called 'Know Your Rights' meetings. This way, PNN tries to improve the (negotiating) position of individual PhD candidates. In the event of both individual and structural abuses in the context of the collective labor agreement, PNN will raise the alarm in order to protect the general well-being of PhD candidates, while advocating for a socially safe working environment for PhD candidates.

2. External PhD candidates

Portfolio focus points - External PhD candidates

- Improve registration of external PhD candidates.
- Advocating for external PhD candidates' access to support, including supervision and facilities.
- Re-establishment of the External PhD candidates working group.
- Attention to the emergence of training companies focused on external PhD candidates.

In addition to the diversity of PhD programs, there is also a lot of diversity within specific types of PhD programs. For example, external PhD trajectories come in all shapes and sizes. Sometimes, external PhD candidates are employees within companies who want to obtain a PhD from a career perspective. In other cases, external PhD candidates are lecturers at universities of applied sciences (HBO), at institutions for secondary vocational education (MBO), or high school teachers who encounter issues within their work that they would like to explore further. These professionals bring knowledge and experience from their work to the institutions and from the institutions back to their workplace. Although the majority of PhD candidates in the Netherlands are external PhD candidates, they are less visible than PhD candidates with an employment contract at a university or UMC. Often, external PhD candidates are not (properly) registered and there is no formal PhD agreement. This complicates the development of policy for monitoring and supporting this group. Moreover, external PhD candidates obtain their doctoral degrees in different structures, which means that the problems they encounter are also diverse. Signals received by PNN show a clear picture of insufficient support for external PhD candidates, a lack of interaction with and connection to colleagues within the department, and limited access to facilities, such as the library, academic literature or a work space. Finally, PNN has become aware of the emergence of various external consultancy firms that specifically target external PhD candidates, which provide PhD supervision for a considerable fee.

PPN will open up the discussion with institutions and submit proposals for the unambiguous registration of external PhD candidates and guidelines for supervisors. In collaboration with the POs, an inventory can be made of the number of external PhD candidates and which specific challenges they face. PNN, together with the POs at universities and other institutions for higher education,

will specifically focus on the re-establishment of the External PhDs working group. Also, PNN will set up an inventory of existing initiatives that focus on external PhD candidates. Lastly, PNN will draw attention to the emergence of these training and consultancy firms aimed at external PhD candidates, and analyze what causes underlie this development and its possible consequences.

3. Diversity

Portfolio focus points - Diversity

- Drawing attention to the importance of diversity among PhD candidates.
- Guaranteeing a socially safe and inclusive working environment.
- Tackling racism, discrimination and transgressive behavior.

Diversity in science is essential. Not only because a diversity of perspectives benefits the quality of science, but also because of the importance of role models and ensuring institutions are inclusive. The Monitor 2020 of the Dutch Network of Women Professors (LNVH) shows that the number of female doctoral candidates is at 43.6%, but as the the academic position increases, the percentage of women significantly decreases. Major improvement should also be made with regards to ethnic and cultural diversity. Stimulating diversity in academia necessitates diversity among PhD candidates. This means it is essential to know to what extent for example graduates with a migration background go on to do a PhD, and to what extent these PhD candidates then move on to a position as postdoctoral researcher or assistant professor. Making academia more inclusive requires tackling inequality, discrimination and mechanisms of exclusion.

Results of the PNN PhD Survey 2020 show that approximately 1 in 5 PhD candidates experience some form of undesirable behavior, in particular discrimination based on gender and ethnicity. At the same time, research by the LNVH and recent cases in the media, shows that (sexually) transgressive behavior also affects academia. Since the global #MeToo movement and the Black Lives Matter protests, the importance of a socially safe working environment has been high on the academic agenda. In collaboration with relevant parties, PNN will continue to advocate for the importance of a socially safe working environment as well as accessible and effective support structures. PNN therefore supports initiatives such as the Cultural Diversity Barometer and the National Action Plan on Diversity and Inclusion. PNN regards current developments regarding the introduction of a university ombudsperson at

universities as positive, but also sees the need for a culture change in the workplace. In addition, PNN applauds the appointment of PhD-specific confidentiality counselors, because it may lower the threshold for reporting undesirable behavior. Finally, the PNN will endeavor to map the experiences and barriers encountered by PhD candidates with a migration background in order to develop policy for this underrepresented group.

4. Quality

Portfolio focus points - Quality

- Commitment to equality between PhD candidates.
- Advocate for high quality PhD supervision and guidance.
- Push for ending the PhD Scholarship Program Experiment.
- Encouraging the inclusion of all tasks and activities into the assessment of the PhD trajectory.

One of PNN's priorities is that a high-quality PhD program should be the rule rather than the exception. Ensuring equality between PhD candidates is therefore of great importance. As was already mentioned, the PhD Scholarship Program Experiment is one of the biggest challenges for PNN in this area. There are major differences in the rights of employed PhD candidates and those of PhD students. Due to their status, PhD students are in a weaker position both financially and legally in comparison to their colleagues who have an employment contract. They moreover do not fall under the protection of the collective labor agreement. This leads to dissatisfaction and uncertainty among PhD students. Proponents of the PhD Scholarship Program Experiment argue that there is a greater degree of freedom to shape the content and direction of the doctoral research project. Although this is desirable, the PNN PhD Survey 2020 shows that the PhD students do not experience significantly more freedom than employed PhD candidates. In addition, PhD students themselves indicate that they would prefer having a position as employee PhD. In collaboration with relevant parties, including the (organized) PhD students themselves, PNN aims to end the PhD Scholarship Program Experiment, for example by means of writing opinion pieces in the media and political lobby.

Another important theme for PNN is (the aftermath of) the COVID-19 pandemic. The pandemic has many adverse consequences for PhD candidates,

and it appears that these are not always mitigated by institutions. PNN will continue to monitor the developments at institutions and will work with its members and partners to provide fair and proportional support for PhD candidates during the COVID-19 pandemic. As already mentioned, the theme of Recognition and Rewards is also an important priority for the coming years. PNN will continue to advocate for academic quality above quantity, and is committed to creating a situation in which PhD candidates are evaluated on all tasks and activities that contribute to science and society, as well as the personal development of the individual PhD candidate. Also, it is important that supervision and guidance are of high quality. This will ultimately contribute to a high-quality and future-proof doctoral climate in the Netherlands.

5. International PhD candidates

Portfolio focus points - International PhD candidates

- Call attention to the specific problems experienced by international PhD candidates.
- Identify effective ways to reach international PhD candidates.
- Increase access to integration assistance.

More than 40% of all PhD candidates in the Netherlands are international PhD candidates. PNN wants to raise awareness for the specific needs of these PhD candidates and the issues they encounter. International PhD candidates are not easy to reach, for the POs nor PNN. Thus, it is necessary to develop effective strategies for communicating with this group. A special focus on PhD candidates who arrive in the Netherlands on a scholarship from their home country is warranted. Mostly, these scholarship PhDs have to get by on a budget that is often lower than the salary of employed PhD candidates and sometimes even lower than the Dutch minimum wage, too. Although some universities provide a so-called 'top-up' scholarship, this is not the case everywhere due to legal complications. Nevertheless, institutions must prevent international PhD candidates from coming to the Netherlands on a scholarship that is insufficient to the extent that they cannot provide for themselves. Thus, support is important, for example for housing, especially in cities where the average rent is high. Another group that requires special attention are the so-called 'sandwich PhD candidates', who are affiliated with two universities, one of which is usually an institution abroad.

Integration in the Netherlands, including into the Dutch academic system, is challenging for many international PhD candidates. The PNN PhD Survey 2020 shows that although many international PhD candidates experience challenges related to cultural differences and language barriers, more than half have no access to integration assistance. In addition, international PhD candidates more often suffer from mental health issues and become victims of undesirable behavior, such as discrimination. Because of differences in (work) culture, inadequate knowledge of their rights, and institutional complexities, international PhD candidates may have difficulties standing up for themselves. PNN is committed to providing high quality information in English about the rights and obligations of PhD candidates. Also, PNN will advocate for fair remuneration by means of a 'top - up' system. Furthermore, PNN wants to encourage universities to offer more accessible integration services as well as mental health support structures.

6. Career perspectives & PPP

Portfolio focus points - Career perspectives & PPP

- Call Attention to career opportunities outside of academia.
- Improve access to career guidance and training.
- Ensure sustainability of the Professional PhD Program (PPP).

Research by the Central Bureau of Statistics shows that two out of three PhD candidates leave academia after completing their PhD. Nevertheless, career development receives only limited attention during PhD trajectories: the PNN PhD Survey 2020 shows that less than 40% of PhD candidates have access to career training. Institutions should better inform about career opportunities outside of academia, and assist in translating the knowledge and skills acquired during the PhD trajectory into competencies that are valued in different sectors. PNN focuses on fostering career opportunities for PhD candidates during their trajectory, with a specific focus on careers outside academia.

The Professional PhD Program (PPP) is meant for PhD candidates who want to work outside of academia after completing their PhD. PNN will continue organizing information sessions in collaboration with partners such as AcademicTransfer about the possibilities of doing an internship during the PhD trajectory. A priority for the PNN is to critically evaluate and reorganize the PPP. Connecting with companies outside academia is crucial. Strengthening and

expanding PNN's existing network with such companies can ensure a more structural offer of professional internships for PhD candidates.

7. Open Science

Portfolio focus points - Open Science

- Connecting PhD candidates and policymakers for Open Science.
- Encouraging the use of and providing information about Open Science.
- Engaging with Open Science initiatives at the local and national level.

Although the PNN PhD Survey 2020 shows that the majority of PhDs in the Netherlands is already encouraged to participate in Open Science practices, a quarter however, is not. Moreover, it appears that PhD candidates narrowly understand Open Science to mean publishing open access and thus to a lesser extent engage in other Open Science practices, such as data sharing. PNN sees a lot of room for promoting Open Science practices among PhD candidates. The Recognition and Rewards movement will likely play an important role in this, ensuring that bibliometric indicators for scientific output can be abandoned. Further progress can be made by adjusting current criteria, such as publication in journals of certain quality, to criteria that stimulate Open Access publishing and other forms of Open Science.

This means that institutions must provide financial support for Open Science research, as well as offer Open Science training. PNN will continue to advocate for Open Science by acting as a bridge between PhD candidates and policymakers. In addition, PNN will focus on informing PhD candidates about Open Science and maintaining and expanding contacts with local and national Open Science initiatives.

8. UMC

Portfolio focus points - UMC

- Working towards sustainable cooperation with relevant partners.
- Ensuring equality between types of appointments within the various UMCs.

- Establishment of a committee within LOUP for PhD candidates associated with peripheral hospitals.

UMCs are nationally represented by the Dutch Federation for UMCs (NFU). PhD candidates at the individual UMCs form a separate group of PhD candidates in the Netherlands with their own collective labor agreement. There is a wide variety of types of constructions within which PhD candidates at UMCs obtain their PhD. Within the working group National Platform for UMC PhDs (LOUP), the specific challenges that this group faces are discussed. During the coming period, emphasis will be on achieving greater equality between PhD positions within the various UMCs. Currently, there are various types of contracts that differ with regards to primary and secondary employment conditions. In addition, doctoral regulations appear to vary greatly per UMC, despite existing guidelines from the NFU. In collaboration with relevant partners, PNN will advocate for clear and uniform PhD regulations for all UMCs that are in line with current trends.

PNN will start organizing UMC-specific 'Know Your Rights' meetings to raise awareness amongst PhD candidates about their rights and obligations. In addition, LOUP wants to start mapping PhD candidates who work in peripheral hospitals. This group of PhD candidates is not visible and they often have difficulty knowing how to reach representative organizations like POs or PNN. By establishing a special working group within LOUP specifically for PhD candidates working in peripheral hospitals, the issues these PhD candidates encounter can be identified and addressed.

Conclusion

Acknowledgments

PNN would like to thank the PhD candidates, the PNN members, and the Advisory Board for their cooperation and support. In addition, PNN would like to thank its partner organizations and sponsors: the Association of Universities (VSNU), the Dutch Federation of UMCs (NFU), AcademicTransfer, THRIVE Institute, the General Union of Educational Personnel (AOB), CNV, FNV, The Academy (KNAW), The Young Academy, LNVH, WOinAction, PostdocNL, De Jonge Specialist, Eurodoc, Neth-ER, Nuffic, Proefschriftmaken, Optima and V&W Adviseurs.

Closing words

The year 2020 was a tough year for many. Despite the COVID-19 pandemic and its consequences, both economically and in terms of (mental) health, PNN is looking forward to the new year: 2021 will be a year of change, possibilities and hope. PNN would like to express its support for and solidarity with all PhD candidates. As an organization for and by PhD candidates, PNN will continue to strive for a future-proof PhD system.

The PNN board 2020-2021.