

## PhDnet Survey 2023 – Executive summary

The Max Planck PhDnet represents around 5000 doctoral researchers (DRs) from 84 research institutes working in the Max Planck Society (MPS). This year's survey report focuses on working conditions, supervision, support and mental health. Moreover, this survey was conducted in harmony with the Helmholtz Juniors and the Leibniz PhD Network. A detailed comparison of the similarities and differences will be featured in separate reports, under the name of N<sup>2</sup> (The Network of Doctoral Researcher Networks).

### Relevance of the survey

For the 2023 PhDnet Survey, we contacted 4965 DRs. Among them, 2135 DRs (43%) completed the survey entirely and 645 DRs (13%) completed it partially. The participation rate is similar across the different sections. In this sample, 49% of the respondents identify as male, 48% as female, and less than 2% identify as non-binary. We observe a steady increase of the share of female DRs since 2018 (41% on that year). Regarding nationality, 39% of respondents hold a German citizenship, 19% hold a non-German EU citizenship and 42% hold a citizenship from outside the EU. The overwhelming majority of DRs identify as European in ethnicity (72%), followed by far smaller fractions of South and Southeast Asian ethnicity (10.5%) and Eastern and Central Asian ethnicity (10%). The average age of DRs at the start of their doctorate was 26.8 years. Together, this provides invaluable data to gain statistically relevant and representative insights. In the following paragraphs, we present an overview of the key findings of the survey, which we consider the most compelling, relevant, and trend-setting for future points of action regarding the work of the PhDnet and the support of DRs by the MPS. We do this by first highlighting areas in which changes led to important improvements in the experience of DRs, followed by pinpointing to where specifically additional support is needed.

### Working conditions

The assessment of the working conditions has always been a key topic of analysis in our report, as it allows us to picture the status quo of the employment conditions of DRs and the impact of recent policy changes whilst also revealing persistent issues. The results of this year's survey show a positive change in terms of financial stability among DRs. The recent policy changes in the funding schemes and amount (i.e. increase of the base salary to an amount equivalent to 65% of level E13 of the TVöD tariff, inflation-compensation payment) very positively impacted the financial safety of DRs. The net median income was in the range of 2001-2100€ per month. Pay gaps were almost non-existent: per gender (2.9 % in favour of men), citizenship (2.6-3.1 % in favour of EU-citizens) and section (1.5-3.0 % in favour of CPT). Importantly, the pay gap between male and female DRs is steadily decreasing since 2021, proving the efficacy of setting a standard base salary.

Secondly, we focused on contracts and other employment types. Here, our results show that the vast majority of DRs in the MPS (89%) hold contracts: 88% in the BM section, 92% in the CPT section, and 82% in the HS section, respectively. Whilst these numbers are high across sections, our findings also reveal that 11% of DRs in HS are employed under a stipend instead of an employment contract, and 3.2% of DRs in this section are unpaid. Across sections, contracts are handed over more frequently to men (91%) than women (87%) and non-binary people (71%). Contract holders represent a higher share among EU citizens (91%) than among non-EU citizens (86%). In contrast, a higher share of non-EU citizens holds a stipend from abroad (5%). It is noteworthy that the majority of external stipends are provided by German institutions (3.7%) rather than foreign institutions (2.5%). Further,

1.4% of DRs are working unpaid: the majority of these DRs were unpaid for 4 months or more and only 9% indicated to be in this situation by personal choice.

Regarding regulations around contract duration, we show that the “3+1” adequately covers the average time that DRs in the MPS need to complete their thesis. This guideline specifies an initial contract of three years followed by a possible extension of one year. Specifically, this average time lies at around four years and is significantly lower than other Germany-wide estimates of 5.7 year (which, however, also includes DRs who have more teaching obligations at universities). Whilst these findings are overall positive, our results do show several cases in which the “3+1” rule was not applied. As such, 17% of DRs in their first year reported already having received more than one contract. By the third year, only 59% are still funded by their first contract while 10% received three or more contracts. These results hint at the existence of chain contracts and show that a significant number of doctoral researchers starts their PhD on short-term contracts.

Regarding working time, 73.3% of DRs report working more than stated in their work agreement. Reported working hours are higher in the BM section and among stipend holders. The main reasons for working overtime are intrinsic pressure (81%) and fear of not being able to finish the PhD before the end of employment (52%). More than half (51.3%) of the DRs work at least two weekends per month, a tendency that increases with PhD year. Regarding holidays, 30.8% of respondents report taking less than half of their entitled paid leave, the main reasons for not feeling free to take holidays were workload-related pressures.

All the above-mentioned aspects suggest that the current contract regulation is not always sufficient to cover the effective duration of a doctoral research, which can result in increasing pressure and stress on DRs who then feel compelled to adopt unhealthy working habits. We recommend the institutes and the supervisors to grant one-year extensions after 3 years of doctorate, and to encourage their DRs to adopt healthier work-life balance habits.

### **Supervision and support structures**

The success and overall appreciation of the doctoral experience depends not only on the intrinsic capabilities of the DRs, but also on the quality of supervision and availability of adequate support (practical and administrative). In general, our findings point to high levels of supervision quality across the MPS. As such, a majority of DRs feels supported by their supervisors across a range of domains, including the encouragement to work independently and, importantly, to use good scientific practice. More specifically, across the domains we included in our survey, less than 5.5% of respondents report to receive too little support. Adding to this, we find that the desired frequency of contact with the direct supervisor maps well onto the actual frequency of meetings. Areas in which improvements in the relationship between supervisors and DRs may be most meaningful are the provision of more feedback and the overall increase of support for a healthy work life balance.

One aim of the survey report specific to supervision is to ascertain how many DRs have structures such as a written supervision agreement and a Thesis Advisory Committee (TAC) in place. Overall, around half of DRs have these structures implemented (46% for supervision agreement and 49% for TAC). Notably, many DRs were not aware of either a supervision agreement or a TAC. This points to an area where improvements are necessary that would benefit the supervision of many DRs in the MPS.

In this year’s survey, we also focused on support in terms of career development and support tailored to international DRs. Concerning career development, we find that most DRs are working towards a career in academia or non-academic research. More than half of the respondents feel well or very well prepared for a career in academia. Overall, our data also suggests the uptake and satisfaction with a range of career support such as soft skill courses, practical courses or mentoring. One area with room for improvement is support with the transition into a non-academic career, which

is the preferred future career plan of 32% of respondents. As such, 34% of respondents indicated that their institute does not offer this kind of support.

Since the MPS welcomes many international DRs each year, one additional aim of this year's survey was to focus on the experience of DRs who do not speak German. Encouragingly, a large majority of non-German speaking DRs report to have access to language courses, either at their institute or externally but with financial support from their institution. However, 7.3% indicate that no support to improve German language skills is available to them. Almost half (47%) of the non-German speaking DRs report that limited knowledge of the German language does not present an obstacle to them in at work. Concerningly, our findings show that German is an obstacle to over a quarter of those DRs, either to some extent or very much. To this end, it may be helpful to ensure that all aspects of the on-boarding process and the day-to-day work environment - scientific and administrative - are accessible in English as well as German. In general, our results suggests that many DRs see further improvement of an on-boarding process as necessary, especially for international researchers.

### **Discriminations and conflicts**

An important section of the PhDnet survey comprises questions on conflicts, discrimination and harassment. In this year's survey, 9.3% of DRs indicate that they reported a serious conflict at their workplace. Additionally, 6.6% have refrained from reporting serious conflicts that occurred at the workplace, which suggests that 40% of serious conflicts remain unreported. For those who reported a conflict, the satisfaction with solution strategies was mixed, but consistently improving over the years: 31% of DRs that reported conflicts were satisfied or very satisfied, while 35.2% expressed mild to strong dissatisfaction. The majority of those that did not report conflicts refrained due to fear of retaliation or lack of trust towards the conflict-resolution systems. Notably, those that experienced serious conflicts were dramatically more likely consider quitting their PhDs, regardless of reporting status.

Over 20% of DRs state that they have been discriminated against during their time in the MPS, with the most frequent perceived reasons being nationality, gender, and problems with hierarchy. The most commonly reported forms of discrimination include loss of opportunities and pronounced favouritism (26%), social isolation (18%), and inappropriate comments (15%). Concerningly, 13% of respondents who were discriminated against report a notable difference in pay for similar roles as their peers, a claim that warrants further investigation by finance and HR. Additionally, 9.5% of DRs in MPS reported experiencing sexual harassment at their workplace, with nearly 82% of cases reported by women. In turn, this means that 17% of all female DRs have reported cases of sexual harassment. The most common perpetrators were other DRs and other scientific staff. These results exhort for the implementation of actions such as a training around identifying and reporting sexual harassment, which may benefit the MPS community.

### **Mental and Physical Health**

In recent years, the PhDnet survey has included questions on the mental and physical health of DRs. Responses to these are crucial to better understand how DRs cope with at times stressful work environment and in which areas measures to relieve stress and to improve mental-well being may be most helpful. This year, 79.5% of the DRs who started the survey agreed to answer questions regarding their mental and physical health. One very positive finding in this section is that awareness and use of the Employee and Manager Assistance Program (EMAP) drastically increased compared to last year's survey. As such, only 23% of respondents indicated that they had never heard of the EMAP. This marks a very significant improvement compared to last year's number of 65.7% and shows that awareness of resources to help with mitigating issues regarding physical and mental health has starkly increased.

Moreover, the share of respondent who report having used the EMAP doubled in 2023 compared to 2022.

A non-negligible amount of DRs report their performance at work to be mentally affected by recent international crises such as global warming (22.8%) and armed conflicts in the world including the War in Ukraine (13.5%) and the Israeli-Palestinian conflict (15.1%). The work of 71.3% of the DRs is still affected by the consequences of COVID-19, highlighting the lasting impact of the pandemic.

To shed light on the overall mental well-being of DRs and to understand trends in recent years we included validated measures of state anxiety, trait anxiety and depression in the survey. We do not claim that the data presented in the report is equivalent to a psychological assessment of psychiatric symptoms or disorders. To measure anxiety, we applied the Spielberg State-Trait Anxiety Inventory and grouped response scores into different levels of anxiety. For state anxiety, the majority of respondents (43.7%) indicated moderate levels of anxiety and only 2.8% reported no anxiety. A similar picture appears for trait anxiety as the overall tendency to experience anxiety in various situations. Again, only 1.3% of respondents are grouped as having no anxiety and 45% fall in the range of moderate anxiety. Concerning depression, 57.4% of DRs who responded to the mental health questions indicated experiencing symptoms that are analogous to at least mild depression. This marks a slight increase compared to last year, where 55.8% of DRs experienced at least mild depression. Noteworthy, a steady increase of the number of DRs experiencing moderate to severe depression is observed since 2019. Overall, these findings are in line with other recent publications indicating that mental health among DRs is on average lower compared to the general population. This highlights the importance of access to services like the EMAP, mental health first aiders and other resources regarding mental well-being.

### **Conclusion**

This year's PhDnet survey shows that there are various areas in which meaningful improvements have been made to the work environment and support of DRs in the MPS. The survey is also an invaluable tool to uncover issues that persist and to highlight areas where additional support is most needed. Overall, we find that the recent policy change in funding of DRs has led to increased financial stability, supervision quality is overall very high and that satisfaction of conflict resolution and awareness of mental-health resources are increasing. However, improvements are needed concerning frequent overtime and weekend work among DRs that may be, in part, due to an increased use of short-term contracts. Additionally, more support may be needed for DRs who do not speak German and for those who struggle with symptoms of anxiety and depression.