

## A Focus on Researcher Mobility On the Involvement of Visiting Researchers in Coordinated Programmes

*Guest visits by visiting researchers in Germany can provide fresh impetus for research while at the same time contributing to national and international networking. This is why the DFG provides funding for guest visits. The purpose of this Infobrief is to provide information on the use of this instrument in connection with DFG-funded coordinated programmes, also offering insights into the duration of visits and the countries of origin<sup>1</sup> of the invitees. Finally, examples are provided to show the extent to which crises influence the mobility of researchers.*

### 1 Research question and data basis

The DFG is committed to establishing and expanding national and international networks. In connection with this, it also funds stays by international visiting researchers in Germany. In fact, the DFG is the largest funder of international guest visits – just ahead of the DAAD: according to the publication *Wissenschaft weltoffen*, the DFG financed 44 percent of guest visits of all funding organisations included (*Wissenschaft weltoffen 2023*, p. 98 f.)<sup>2</sup>.

Visiting researchers can participate in many DFG programmes, including the networks formed under DFG-funded coordinated programmes – Clusters of Excellence (EXC), Collaborative Research Centres (CRC)<sup>3</sup> and Research Training Groups (RTG) – which are the focus of this Infobrief.

The data for the analysis is based on information collected in connection with surveys on participating researchers. The DFG conducts these each year for the aforementioned programmes: information is collected on all individuals with and without doctorates who were involved in the network for at least one month during the survey period. The surveys do not include shorter guest visits or those in which travel expenses and/or the position were not financed by DFG project funds. The following analyses relate to individuals who were listed as visiting researchers in EXCs, CRCs or RTGs. This also includes visits by researchers from other domestic institutions, regardless of nationality.

This Infobrief addresses the following questions in particular:

- ▶ How are visiting researchers distributed across networks and programmes? What share of all participants do they account for?
- ▶ How many networks use the instrument of the guest visit to invite researchers to take part for a limited period of time?

1 In this context, the term “countries of origin” refers to the countries in which the researchers were working before participating in the DFG project.

2 For extensive information on guest visits funded by other organisations, see also the DFG Funding Atlas (DFG 2021a).

3 This includes Transregios (TRR).

- ▶ How has the participation of visiting researchers developed over time? Have there been shifts in terms of their countries of origin?
- ▶ What do guest visits say about patterns and factors influencing researcher mobility?

The last survey took place in 2023, covering 581 research networks. Here, information was provided on approximately 50,000 individuals who were involved in a research network from the beginning of September 2022 to the end of August 2023. 765 of them were visiting researchers. Looking at developments from 2019 to 2023, the data set contains information on more than 83,000 individuals, of whom exactly 2,271 were visiting researchers.

## 2 Results

### 2.1 Distribution of visiting researchers across networks

All DFG-funded projects can use network funds to finance guest visits, but they do so to varying degrees. What differences can be identified?

In 2023, visiting researchers accounted for only a small share (about 2 percent, N=765) of all participants in all programmes. On average, they tend to be more strongly represented in Clusters of Excellence (EXC) than in CRCs (just over 1 percent) and RTGs (slightly less than 1 percent). Only considering the networks in which visiting researchers were involved (186 of 581), the median share of all participating researchers was just over 2 percent.

A closer look at the networks reveals that distribution was very uneven, however. The range of the share of visiting researchers was broader in EXC than in the other programmes. Across all programmes, there are eleven networks in which visiting researchers account for more than 10 percent of all participants, and in three networks this figure is even higher than 20 percent. So, in these cases, visiting researchers can

no longer said to be merely providing a specific impetus: they are a fundamental component of some networks, allowing a wide range of perspectives to be incorporated in research.

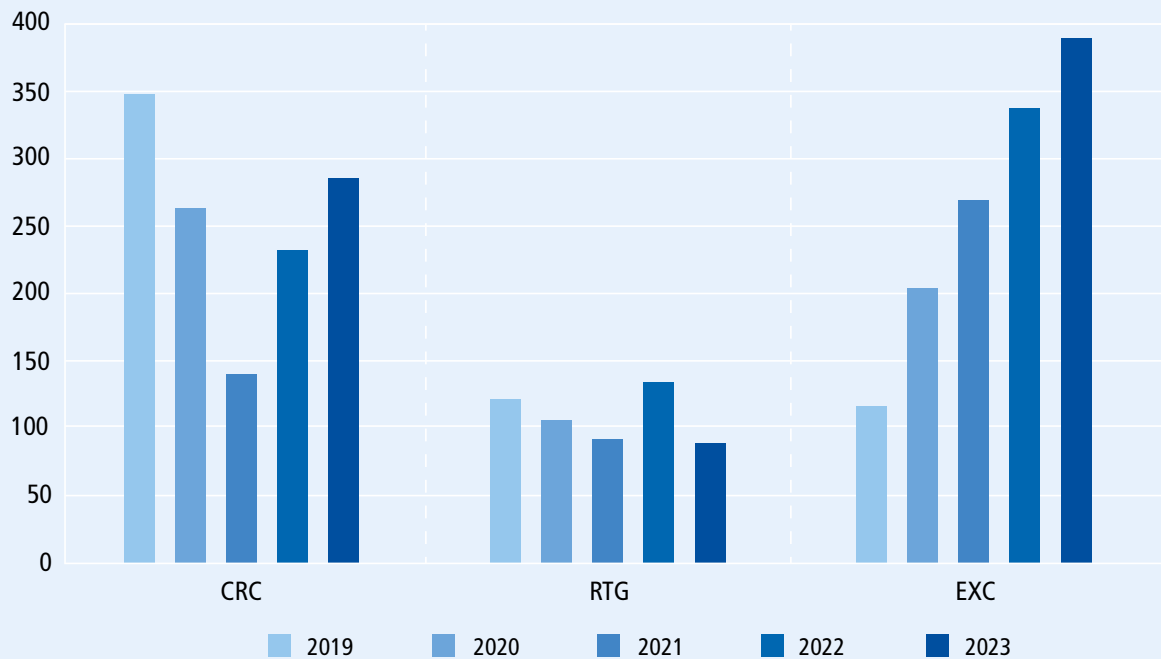
As Figure 1 shows, CRC temporarily saw a significant decline in guest visits of 60 percent (2019 to 2021) during the coronavirus pandemic years. However, they had almost returned to their previous level by 2023. In terms of RTGs, there was only a slight decline until 2021, but the figures remained fairly stable overall. By contrast, the number of guest visits in connection with EXC has increased relatively steadily since their funding began in 2019. This reflects the fact that the EXC have been in a phase of personnel expansion ever since they were first established in 2019, and this continued among other EXC participants during the pandemic. For more detailed data on this, see the DFG Infobrief *From Zero to Full Capacity? Personnel Expansion in Clusters of Excellence* (DFG 2021b).

### Disciplinary differences

The distribution of visiting researchers across scientific disciplines was very uneven in 2023 and does not reflect the distribution of the scientific disciplines of the networks as a whole (see Figure 2). In relative terms, there are more visiting researchers in networks in the humanities, social sciences and natural sciences than would be expected based on the number of networks.

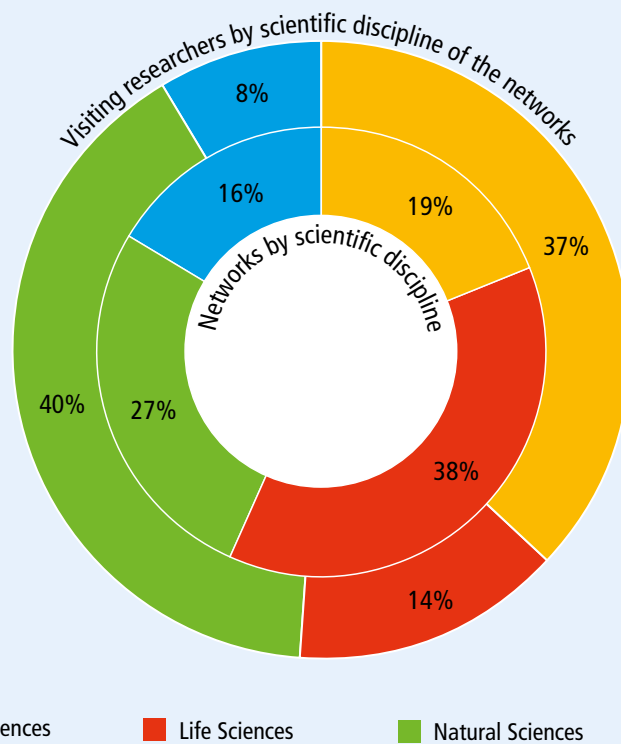
Among the networks with guest visits in 2023 (N=186), those assigned to the humanities and social sciences tended to employ a higher share of visiting researchers. In these, 4 percent of the participants are visiting researchers on average, while in the other scientific disciplines the average is around 2 percent. In a quarter of the humanities and social science networks, the share was even higher than 7 percent. In Figure 3, the higher share of guest visits in the humanities and social sciences is clearly visible, but individual natural science networks also have a very high share of visiting researchers.

**Figure 1:**  
Participating visiting researchers by programme 2019–2023 (number)



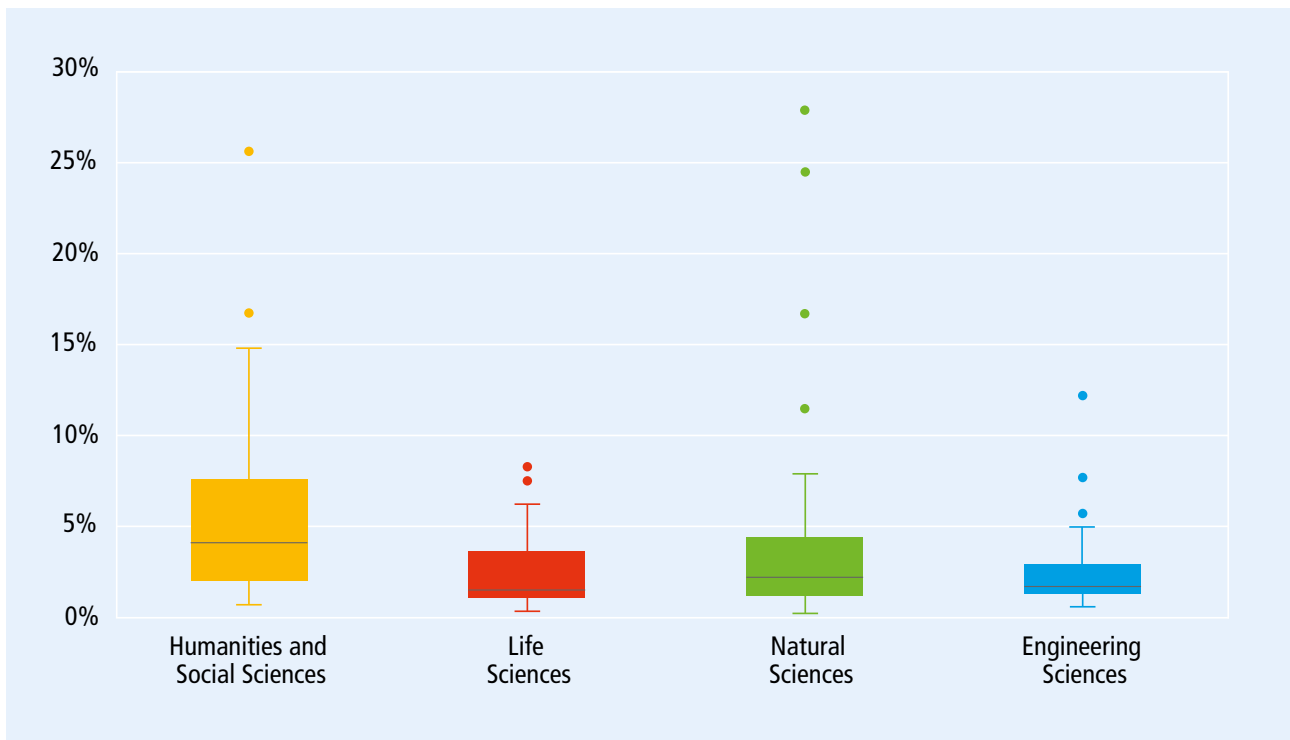
Data basis:  
Participating EXC, CRC, RTG in the years 2019 to 2023.

**Figure 2:** Networks by scientific discipline and distribution of visiting researchers by scientific discipline of the networks in 2023 (in percent)



Data basis:  
Participating EXC, CRC, RTG (N=581) and visiting researchers involved in 2023 (N=765).

**Figure 3:**  
Share of visiting researchers among network participants in 2023, by scientific discipline of the networks



The boxes mark the area in which 50% of the figures of the scientific discipline lie. One quarter of the figures are above and below it respectively. The horizontal line in the box marks the median. The vertical lines extend to the lowest and highest figures, but no further than 1.5 times the length of the box. Figures that are even smaller or larger are shown as points.

Data basis:

Participating EXC, CRC, RTG with at least one guest visit (N=186) in 2023.

As mentioned above, eleven networks have a particularly high share of visiting researchers – accounting for over ten percent of the individuals involved. A closer look at this group shows that six networks belong to the humanities and social sciences and four to the natural sciences.

### Length of stay in the networks

In order to gain an impression of how high the fluctuation rate is for guest visits, the duration of participation is considered below. This is done at the individual level, i.e. for individuals with multiple guest visits at a network, the participation times are added up. In 2023, 208 people (5 percent) had already spent more than one period as a visiting researcher with the same network<sup>4</sup>. Figure 4 shows that most visiting researchers are only involved in a net-

work for a short period of time. The median of the total duration of stay is 3.5 months, 78 percent are involved for a maximum of six months, 92 percent for a maximum of twelve months. Only 3 percent of visiting researchers were involved for more than 24 months. As with all the analyses presented in this Infobrief, it should be noted here that visits lasting less than one month are not included.

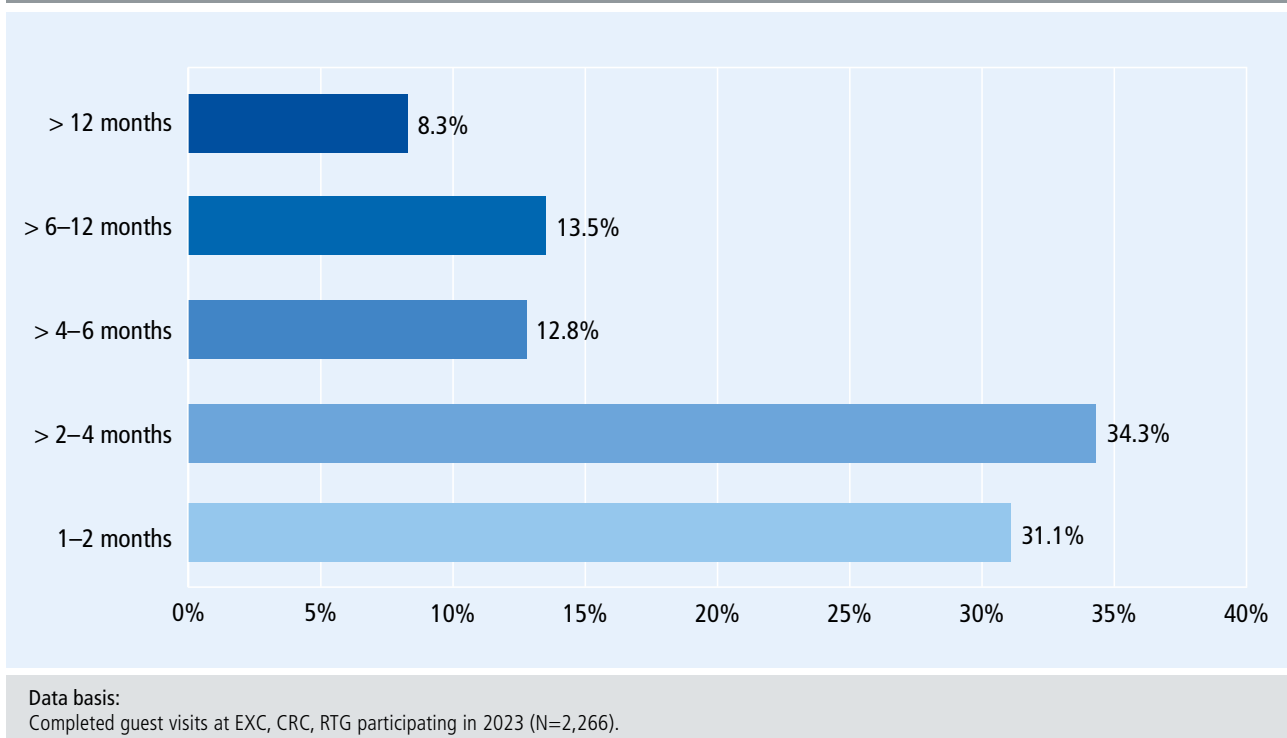
## 2.2 Guest visits as an indicator of researcher mobility

The higher fluctuation associated with comparatively short stays makes the participation of visiting researchers an early and sensitive indicator of changes in international mobility. This is illustrated by a number of examples.

During the COVID-19 pandemic, the number of guest visits fell from 585 (2019) to 501 (2021). It was only in 2022 that the number

<sup>4</sup> Data basis: Visiting researchers with EXC, CRC, RTG participating in 2023.

**Figure 4:**  
Duration of participation of visiting researchers at EXC, CRC, RTG



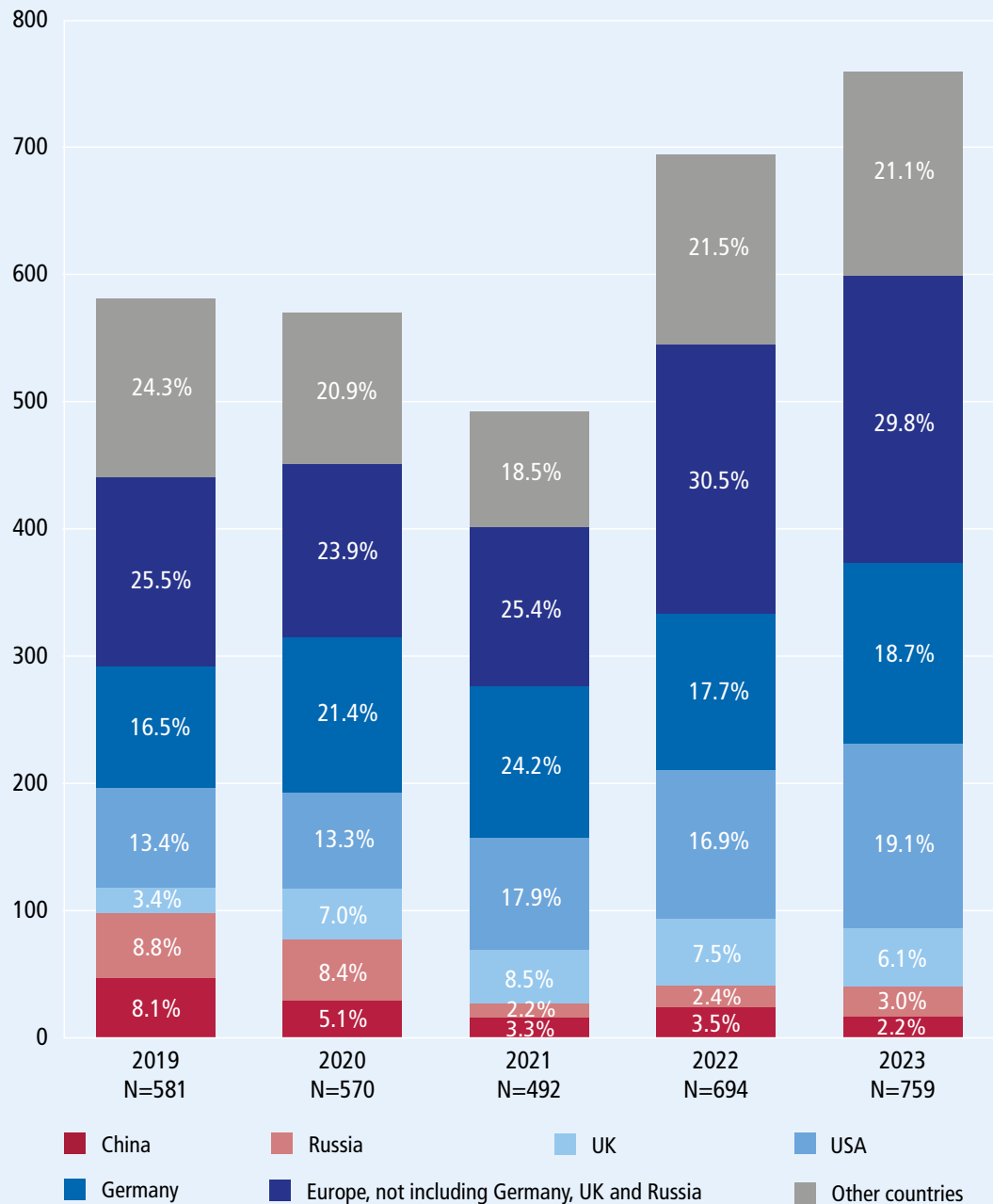
rose again significantly to 703 participants. Although the decline in absolute numbers seems moderate, in other groups of participating researchers (e.g. doctoral researchers), the number of participants did not decline; on the contrary, it actually increased during the pandemic. The share of visiting researchers among all participants thus fell from 1.4% (2019) to 1.0% (2021). The impact of reduced international mobility was clearly greater for this group than for others. As can be seen in Figure 1, this particularly affected CRCs, while the number of guest visits at EXCs rose continuously in connection with the general increase in personnel. A comprehensive overview of the development of proposals and international cooperation projects during the pandemic is provided by the publications *DFG Funding Activities in the Context of the COVID-19 Pandemic* (DFG 2022) and the Infobrief *Coronavirus, Gender and Research Funding* (DFG 2021c).

Visiting researchers most often come from the United States. According to the 2023 survey, 19 percent of visiting researchers were employed there before joining the network.

Likewise, just under 19 percent of the individuals were already working in Germany immediately prior to their guest visit, contributing to the national networking of researchers and institutions, something that is also desirable. The United Kingdom accounted for 6 percent of visiting researchers. Ukraine ranks as high as fourth with 4 percent. As can be seen in Figure 6, numbers here did not begin to rise sharply until the start of the war in Ukraine.

Figure 5 shows how the countries of origin of the visiting researchers are distributed over time. In 2019, one in six visiting researchers at EXC, CRC and RTG came from China or Russia, so it can be assumed that there was significant research cooperation with these countries at this time. At the outbreak of the COVID-19 pandemic, China began a three-year isolation in connection with its “No COVID” strategy, thereby severely restricting the international mobility of researchers from China. The share of visiting researchers from China fell rapidly from 8 percent (2019) to 5 percent (2020) and 3 percent (2021). Even the end of China’s No COVID policy at the end of 2022 did not lead

Figure 5:  
Origin of visiting researchers (in percent)



Data basis:  
Participating EXC, CRC, RTG (excluding "unknown", "no information") in the years 2019 to 2023.

to a rebound. Instead, the share fell further in 2023 to just around 2 percent. The share of guest visits with Russia as the country of origin remained stable in 2020, but collapsed within a year from 8 percent to just 2 percent in 2021.

At the same time, the share of visiting researchers from Europe and the USA in particular increased. In 2023, 30 percent came from Europe (not including Russia, Germany

and the UK); in 2019, the figure was 26 percent. Just under one-fifth came from the USA in 2023 (2019: 13 percent). There was no decline in the share and number of visiting researchers from the USA even during the pandemic: in fact, these figures increased from 2021 onwards. In 2023, 6 percent of visiting researchers came from the UK; in 2019, the figure was only 3 percent. From 2020 onwards

(7 percent), the share remained relatively stable, so the UK's withdrawal from the EU in 2020/2021 cannot be seen to have had any negative impact on guest visits in the period under review.

The sharp decline in participants from Russia and China is not as pronounced for all other participating researchers (e.g. doctoral researchers, professors or other scientifically engaged personnel). Only minor changes can be seen here. For example, the share of participants who worked in China and Russia before joining the network remains stable at 1.3 percent and 0.5 percent respectively. The fact that longer-term employment relationships are entered into with these researchers means that short-term developments such as crises do not have such a rapid impact.

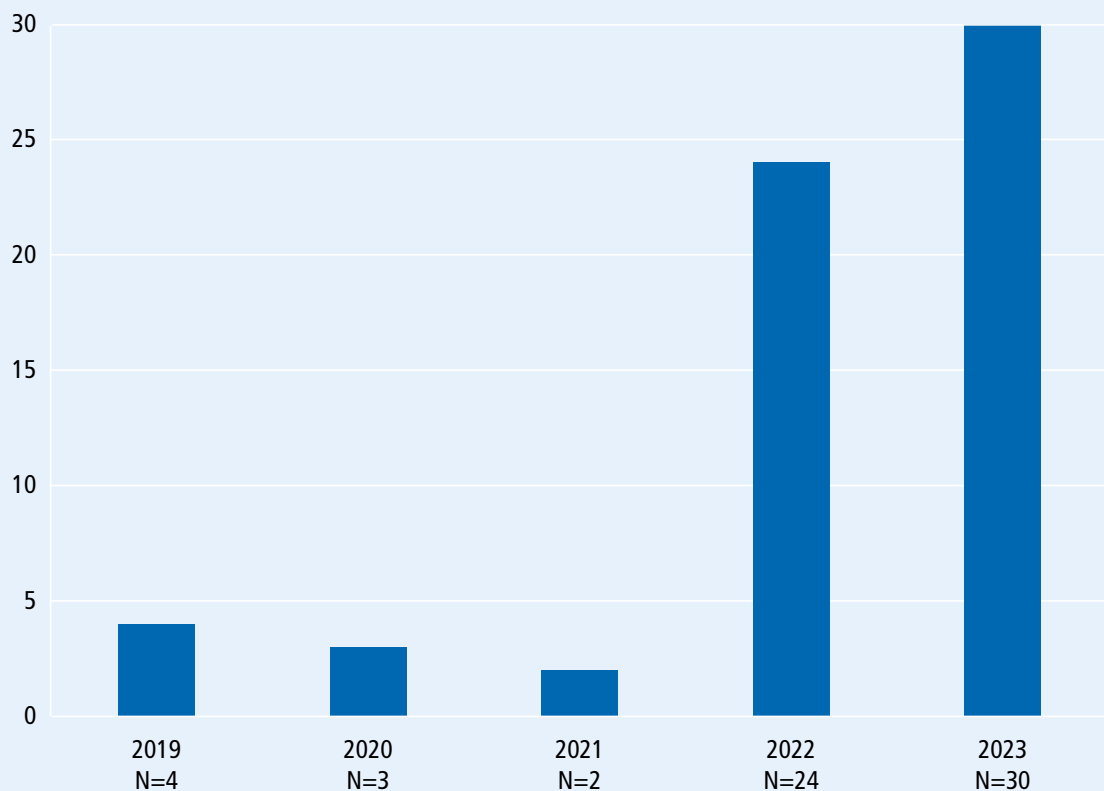
Developments during the COVID-19 pandemic and in Russia already shown that mobili-

ty flows of visiting researchers can shift quickly. This is specifically visible for visiting researchers from Ukraine, too.

Since Russia's war against Ukraine began in 2022, Germany's research relations with Russia have been suspended. By contrast, German research organisations are offering to include Ukrainian researchers in new or already funded projects. Although there has also been an increase in the number of participants from Ukraine for other groups, such as postdocs, this is much more pronounced for guest visits and coincides with the start of the war.

The absolute number of visiting researchers from Ukraine remains low and always has been. What is of interest here is the shift over time: the significant increase provides a further indication that the participation of visiting researchers is a sensitive indicator of changes in international mobility.

**Figure 6:**  
Visiting researchers involved with country of origin Ukraine.



Data basis:  
Participating EXC, CRC, RTG in the years 2019 to 2023

### 3 Conclusion

The possibility of using DFG funds for guest visits is utilised very unevenly by the networks. There are significant differences between the programmes: Clusters of Excellence invite visiting researchers to participate for at least one month more often than Research Training Groups and Collaborative Research Centres. The pandemic had a greater impact on the number of visiting researchers involved in CRCs than in the other two programmes.

However, the distribution is also very heterogeneous across all programmes. While visiting researchers make up only a small share of all participants in many networks, there are some in which they account for a significant share of all participants. At the top end, visiting re-

searchers make up more than a quarter of all participants in a network. There is a disproportionately high number of guest visits in networks that belong to the humanities and social sciences and to the natural sciences.

Most visiting researchers come from Europe, including Germany, while the most important single country of origin is the USA. Over the last few years, there has been a noticeable shift towards these regions of origin. China and Russia were the countries of origin of about one-sixth of visiting researchers in 2019, but they have since declined in significance. Their combined share fell to just over 5 percent by 2023.

Such changes in international mobility are quickly reflected in the participation of visiting researchers. This makes them a better indicator of short-term mobility than employment figures.



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## DFG infobrief

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