

SAB Response to KNAW-NIN 2012-2017 Assessment Report

This document provides a response on behalf of the Scientific Advisory Board (SAB) of the NIN to the Assessment Report prepared by the Evaluation Committee, concerning the period 2012-2017.

Background

The SAB currently comprises six members: Simon Fisher (Chair), Anna Akhmanova, Diederik van de Beek, Armagan Kocer, Serge Rombouts, and Sabine Spijker. The SAB visits the NIN at least once a year, meeting and discussing with staff at multiple levels, including directors, group leaders, postdoctoral scientists, and students. Beyond these 1-day annual meetings, we are consulted via email/phone on issues that may arise through the year, providing independent expert feedback to the directors when they are preparing key documents or making major decisions. Through our meetings and these other means, we monitor and advise on a range of issues including: the overall shape of the research portfolio; strategic planning and vision; recruitment/evaluation of group leaders; management structures and policies; internal communication and cohesion across different groups; visibility and societal impact; diversity (particularly gender balance); facilities, resources and housing; career development for junior staff; quality of PhD training; among others. All these represent areas that have evolved in significant ways over the assessment period, and the NIN leadership have invested serious time and effort in addressing them.

In this document, we do not repeat details about the remit and structure of the NIN, which are clearly captured by the Self-Evaluation and the Assessment Report. Rather, we focus on the assessment criteria employed by the Evaluation Committee, presenting our views on each aspect in turn, followed by responses to each of the specific recommendations, from the perspective of the SAB.

Assessment of Research Quality

We fully concur with the view of the Evaluation Committee that the NIN's output is highly impressive (especially for the structural groups) characterized by "world-class innovative research" and many publications in high-impact journals. As highlighted by the Committee in the report, formal bibliometric analyses demonstrate that, for an organization of its size and budget, the NIN significantly outperforms in terms of both quantity and quality. Also recognized by the Committee is the exceptional success that the group leaders have in bringing in prestigious external grants in addition to core NIN funding, along with other markers of distinction (prizes, membership on evaluation/advisory boards etc.). Another noted strength of the NIN is their outstanding research facilities, including the Netherlands Brain Bank, the non-human primate facility and the Netherlands Sleep Registry, as well as their role in pioneering important new technologies (including "miniscopes"). The Committee points out the added value that these facilities and innovations provide to the broader scientific community beyond the NIN itself. The mutual synergy between different groups, particularly those most closely related to the NIN's core mission, is also stressed. Fostering an interactive research environment is something that the NIN leadership have actively strived for over the period, and so it is encouraging to see this formally recognized in this evaluation.

Assessment of Societal Relevance

We support the Committee's view that the NIN scores top marks in societal relevance, another area that the NIN directors invested substantially in during recent years. The report gives a snapshot with examples across multiple domains that include reaching out to the general public (TV/radio, print media, events etc.), patients and patient organizations (e.g. neural implants for blind people, cerebellar stimulation in epilepsy), researchers (translational collaborations with UMCs), Dutch/European government (advising on brain health awareness, animal use in neuroscience etc.) and industry (NeuroTech-NL consortium).

Assessment of Viability

Here the Committee recognize many positive aspects of the sustainability of the NIN, which are also very familiar to SAB members from our own visits and interactions during the period under assessment. There is little doubt that NIN researchers will continue to produce world-leading research; they are adept at securing competitive funding; the remit fits well within the National Research Agenda; there is clear vision, strong leadership, a collaborative and open atmosphere, and the scientific freedom to innovate and develop ambitious projects. Moreover, the Assessment Report stresses the obvious added value that the NIN provides for the Dutch and international landscape, because the institute carries out focused research on neural circuits with state-of-the-art facilities and technologies, research that is fundamental at heart but which at the same time has considerable societal and translational relevance. The NIN is recognized as fulfilling a unique and crucial niche that complements the (neuro)science of universities and UMCs, and is on the path to become an “outstanding institute with high international recognition”.

Nonetheless, the Assessment Report draws attention to several tangible threats to long-term viability:

- **Housing:** The NIN suffers from suboptimal housing, largely due to ongoing situations that are out of the control of the directors. The building is not well tailored to the research mission of the NIN, it is poorly and inefficiently maintained by the AMC landlord, and plans for upcoming renovations of IWO will have severe negative consequences for the NIN’s many rodent-based programmes of research. The SAB fully agree with the Evaluation Committee when it describes this as “a serious, acute problem that urgently needs to be resolved” and “the most substantial threat to viability”. The housing situation is a recurring discussion point in our SAB visits to the NIN, and it is concerning that little progress has been made, despite the best intentions of the NIN leadership.
- **Visibility:** The NIN has made good progress in recent years in enhancing this aspect, but still needs to increase visibility on the international level. The SAB concurs with the views of the Committee - there is a disconnection between the high-impact of the NIN’s research outputs and the lack of an internationally recognized brand for the Institute as a whole (rather than specific PIs).
- **Non-human primates:** It is clear that NHP work is a great strength and one of the cornerstones of the NIN mission, but in the broader scientific and societal landscape the future of this type of research is under threat. In its report the Committee stresses the need for robust support from KNAW to ensure viability of this unique feature of the NIN; the SAB endorses this viewpoint.
- **Management:** The Assessment Report notes excellent scientific management, but identifies a need for improved service/operations infrastructure, as well as for enhanced transparency and internal communications. Shortcomings in these areas also came to light during recent SAB site-visits; they are on the radar of the NIN directors who are already taking steps to address them.
- **Big data infrastructure:** The Evaluation Committee notes the lack of centralized IT support infrastructure and/or policy for big data research - currently different groups come up with independent local software and hardware solutions in an ad hoc manner. Of note, the SAB raised this as a threat to viability during the most recent site visit (February 2018) and the NIN directors indicated they were forming an internal committee tasked with addressing the point.

In sum, the SAB agrees with the Committee’s comments on these concerns for long-term viability, while at the same time pointing out that the NIN leadership are aware of several of these issues and are actively attempting to address them, to the degree that they can do so. According to the SAB, if the housing situation can be resolved this will substantially improve viability. We return to these points later in the document, in the section addressing the Evaluation Committee’s specific recommendations.

Assessment of the NIN's PhD programme

Since the last evaluation, the NIN leadership has put into place multiple measures to enhance interaction between PhD students of the Institute, and create a shared identity for the student community. In the view of the SAB, these measures have been working well, something that appears to be recognized by the Assessment Committee in the report. Based on our own discussions with junior members from a range of NIN groups, the SAB share the impression of the Committee that the majority of the PhD students are satisfied. Supervision structures have become more robust and formalized during the assessment period, including preparation of education plans for each student, appointment of second supervisors and more proactive monitoring of progress through the PhD. The SAB has noted some imbalance across different groups in the practical implementation of these measures. As noted by the Evaluation Committee, the NIN leadership (and the new HR head) are taking action to ensure that there will in future be consistent adoption of these procedures by all groups. PhD durations at the NIN are relatively long (5-6 years), and again vary from one group to another, but the NIN directors aim to reduce the typical length to ~4 years, in part through the application of stricter monitoring. Support for career development (events and advice) has been an active area of focus by the NIN in recent years – as pointed out by the Evaluation Committee the students of the Institute do particularly well in finding employment, and almost two-thirds of them stay in science after completing their thesis, which speaks to the strong training record.

Assessment of Research Integrity Policy

The Committee notes that appropriate measures to ensure research integrity are in place at the NIN, but there could be more awareness among the researchers, along with centralized advice. In addition, the implementation of a data protocol, requiring that each project has a data management plan and follows FAIR principles, the appointment of a data steward, and the commitment to 100% open access by 2019, are laudable developments at the NIN which will help safeguard the future of research integrity.

Assessment of Diversity/Inclusiveness Policy

The Assessment Report highlights the various ways that the NIN is trying to improve its diversity with respect to scientists joining from abroad, including use of English for communications/meetings, a housing officer and introductory meetings. As the Committee highlight, gender balance is excellent at the level of postdocs and PhD students, but there is a longstanding issue at the group leader level (in particular if considering only structural groups).

SAB Responses to Recommendations

Housing: Members of the SAB unanimously and strongly endorse the Evaluation Committee's position on the housing situation. Solving this issue is indeed a matter of urgency and of the highest priority. We agree that the optimal solution would be a new architecturally attractive building, specifically dedicated to the NIN. As noted this should be preferably in the Amsterdam region but if this proves difficult to realize in an adequate timeframe then alternative Dutch host sites must be seriously considered. Empowering the NIN directorship to directly engage in planning discussions is also indeed crucial. Robust support from KNAW in helping to solve this issue is essential in order to remove this threat to the future of the NIN.

Mission: The SAB have seen major improvements of focus/cohesion of the NIN over the evaluation period. We agree with the Evaluation Committee that further enhancement is possible moving forward, through recruitments of new structural groups that are well aligned to the clarified mission statement, as well as by careful consideration of how honorary groups fit into this overall strategy. The SAB members also

support the suggested minor revision of the mission, which expands the scope beyond the visual system: 'to explain how circuits of neurons enable us to perceive the world and act upon it.'

Visibility: The Evaluation Committee also makes multiple suggestions for improving NIN visibility further, including continued improvement of the website, more social media presence, active promotion of NIN as a brand (rather than just the well-known researchers) in the media, and a new dedicated building (see "housing" above), all of which the SAB finds to be excellent recommendations. The Committee also suggests sponsoring of a yearly or bi-yearly symposium directly related to the NIN's mission, as well as a distinguished lecture/award. To our knowledge the NIN already has some similar measures in place. For example in 2017 there was a NIN-sponsored Summerschool on Procedural Learning, at which Rui Costa gave a special lecture and received the NIN-KNAW-sponsored Ariëns Kappers Medal. Nonetheless, development of a new award scheme and/or a prominent symposium series could indeed be valuable.

Non-human primates: The NIN hosts the only NHP facility for neuroscience research in the Netherlands. As noted by the Evaluation Committee, animals there receive high standards of care, matching or exceeding the best in the world, and the research being carried out is world-class and of substantial societal import. The SAB agrees with the conclusion that this facility is an essential asset to neuroscience in the Netherlands and abroad – it needs to be supported and its future safeguarded.

Operational management: The Evaluation Committee identified shortcomings in some of the support departments of the NIN: being not sufficiently service-oriented, having poor internal communication and lacking in transparency, with negative consequences for the efficiency of the institute. This issue has been noticed at recent SAB visits to the NIN, and the directorate appear to recognize the need for increased "professionalization" of the support infrastructure. The Committee also raise the point that group leaders feel there could be more transparency and feedback in decision-making processes. This is another point that has been subject to discussion at successive SAB site-visits. We note that the communication between directors and other group leaders, and their involvement in shaping the strategies, developments and policies of the NIN, have substantially improved over the past few years. Nonetheless, it is still a work in progress, with room for further improvement.

Big data infrastructure: At our most recent SAB visit, we noted the lack of a centralized strategy for handling data-intensive research, with individual groups coming up with ad hoc solutions in a way that is inefficient for the future of the NIN as a whole, given that neuroscience is becoming more and more dependent on big data at multiple levels. So, we are not surprised to see this point raised by the Evaluation Committee and we welcome the recommendation to invest in shared computational services, data storage facilities, computational expertise, etc. This could require additional funds from central resources to be effective, but it would save money in the long term.

Spinoza Centre: The SAB concurs with the Evaluation Committee's view that the combination of the Spinoza Centre with the Netherlands Brain Bank and the NHP facility enables the Institute to perform studies that are unique. We fully support the recommendation to continue the successful relationship between the NIN and the Spinoza.

Netherlands Brain Bank: We share the view of the Committee that the Netherlands Brain Bank is a major asset for international collaboration and that it should remain affiliated with the NIN.

Open science: The SAB thinks that the recommendation to allocate funds in order to facilitate the open data policy is an excellent one and strongly support it.

PhD programme: Like the Evaluation Committee, the SAB feels that more responsibility from group leaders, consistently across the entire NIN, is desirable and should enable the typical length of PhD durations to be brought into a more reasonable timeframe, notwithstanding the labour/time-intensive nature of certain fields of experimental research. In general, the SAB welcomes a focus on more explicitly structured monitoring and management of PhD progress, which will have multiple benefits for the training programme of the NIN.

Research integrity: We agree that the NIN could benefit from more transparency on the research integrity procedures that are in place, making them known to all staff. Appointing an official confidential advisor within the institute is standard practice in many other organisations, and the SAB support this proposal.

Diversity and inclusiveness: Again the SAB concurs with the comments of the Committee. In particular the question of gender balance at group leader level has been the focus of attention at multiple SAB meetings, and the NIN leadership have made it a priority to resolve this issue in their strategic planning for future hires. At our last SAB meeting, in February 2018, the NIN Board reaffirmed the commitment that the next structural hire should be a female. We advised that in recruiting the new Group Leader it would be important to emphasize how the NIN supports work-life balance, young families etc. to maximize attractiveness of the position.

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