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Netherlands Institute for Neuroscience – KNAW
SEP evaluation 2018-2024

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info@academion.nl

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1. Foreword by the committee chair

The Netherlands Institute for Neuroscience (NIN) provided a well-structured, well-articulated, and meaningfully evolving strategic plan. The shift towards integrating psychiatry and strengthening open science practices are particularly promising. During the site visit, the evaluation committee was impressed by the coherence and high standard of research presentations, the integrative nature of the institute, and the top standards of all facilities. The committee values the NIN as a highly successful and reputable institute with strong research output, distinguished researchers, and impressive resources. The committee also sees an institution with a strong commitment to societal impact and a track record of successful public and other engagement. The committee has a very positive view of the NIN's scientific and societal relevance actions. The institute is recognized for its excellence, productivity, and contribution to addressing important scientific and clinical challenges. The committee has a very positive view of the institute's leadership, highlighting their forward-thinking strategy and foresight. The panel acknowledges the NIN for having a strong, inclusive academic culture with efforts towards transparency and social safety.

While the institute likely will face challenges like any other research facility due to budget cuts and political developments, the institute is sensitive to some obvious challenges that need to remain in the focus of attention such as data sharing (e.g., privacy sensitive human data; time-intensive protocols), implementation of strategic goals (e.g., national vision to involve psychiatry departments and their implementation), resource allocation (e.g., extending to psychiatric research and open science might be more costly than anticipated), and diversity to fully realize its ambitious goals. The committee congratulates the NIN for its excellent and future thinking strategies and looks forward to its continued successes.

2. Procedure

2.1 Scope of the review

The Royal Netherlands Academy of Arts and Sciences (KNAW) asked a review committee of external peers to perform a review of the research conducted at the Netherlands Institute for Neuroscience (NIN) for the period 2018-2024.

In accordance with the Strategy Evaluation Protocol 2021-2027 (SEP) for research reviews in the Netherlands, the committee was asked to carry out the assessment according to several guidelines. The assessment was to include a backward-looking and a forward-looking component. The committee was asked to judge the performance of the unit on the main assessment criteria specified in the SEP and to offer its written conclusions as well as recommendations based on considerations and arguments. The main assessment criteria are:

- Research Quality;
- Societal Relevance;
- Viability of the Unit.

During the evaluation of these criteria, the committee was asked to incorporate four specific aspects relating to how the unit organises and performs its research, its composition in terms of leadership and personnel, and how the unit is run on a daily basis. These aspects are:

- Open Science;
- PhD Policy and Training;
- Academic Culture;
- Human Resources Policy.

For more information on the criteria and categories of the Strategy Evaluation Protocol 2021-2027, see Appendix 1.

Furthermore, the KNAW specifically asked the committee to address the following additional questions:

- How does the committee view the two new elements in the institute's strategy namely: 1) to focus more on the use of the unique knowledge in the field of brain circuits to better understand and diagnose psychiatric disorders and to be able to treat them better in the future, and 2) to further expand the sharing of technical, scientific expertise and data in the field of brain circuit analysis? And what recommendation does the committee have for achieving these goals?
- How does the committee judge the institute's added value in the national context considering the connecting and coordinating role that is expected of national research institutes?

2.2 Composition of the committee

The composition of the committee was as follows:

- Prof. Sonja Kotz, Professor of Neuropsychology and Translational Cognitive Neuroscience at Maastricht University;
- Prof. Robert C. Froemke, Skirball Foundation Professor of Genetics at New York University;
- Prof. Christian Cajochen, Professor of Experimental Psychiatry at the University of Basel;
- Prof. Aiman S. Saab, SNSF Eccellenza Professor at the University of Zurich;
- Prof. Rony Paz, Manya Igel Professor of Neuroscience at Weizmann Institute of Science;
- Maria Menafra MSc, PhD candidate at Radboud University.

The committee was supported by Dr Fiona Schouten, who acted as project manager and secretary on behalf of Academion.

2.3 Independence

All members of the committee signed a statement of impartiality and confidentiality to guarantee an unbiased and independent assessment of the research quality issued to them by the KNAW. Personal or professional relationships between committee members and the research unit under review were reported and discussed at the start of the site visit amongst the committee members. The committee concluded that no specific risk regarding a bias or undue influence existed, and all members were sufficiently independent.

2.4 Data provided to the committee

The committee received the self-evaluation report from the unit under review, including all the information required by the SEP.

The committee also received the following documents:

- The Terms of Reference;
- The SEP 2021-2027 and appendices;
- List of publications 2018-2024.

2.5 Procedures followed by the committee

The committee proceeded according to the SEP 2021-2027.

In its first online meeting, on 9 January 2025, the committee was briefed by Academion about research reviews according to the SEP 2021-2027. It agreed upon procedural matters and aspects of the review. When receiving the institute's documentation, all committee members independently formulated a preliminary evaluation based on this documentation before the site visit. In a second online meeting, on 10 March 2025, the committee discussed these preliminary evaluations and identified questions to be raised during the site visit.

The site visit took place on 18-20 March 2025 (see the schedule in Appendix 2). After the interviews, the committee discussed its findings and comments to allow the chair to present preliminary findings and to provide the secretary with argumentation to draft a first version of the review report. The final review is based on both the documentation provided by the NIN, and the information gathered during the interviews with management and representatives of the research unit during the site visit.

The draft report by the committee and secretary was presented to the NIN for factual corrections and comments. In close consultation with the chair and other committee members, the comments received were reviewed to draft the final report. The final report was presented to the Board the KNAW and to the management of the NIN.

3. Research review of the Netherlands Institute for Neuroscience

3.1 Introduction

The Netherlands Institute for Neuroscience (NIN) was founded in 1909 as the Central Institute for Brain Research (NIBR). In 2005, the NIBR merged with the Netherlands Ophthalmic Research Institute (NORI) to form the NIN. The NIN is one of 12 institutes of the Royal Netherlands Academy of Arts and Sciences (KNAW). Through its institutes, the KNAW promotes innovation and knowledge valorisation. KNAW also encourages the institutes to cooperate with other research institutes and university research groups.

The present-day NIN has approximately 200 staff members (173,7 FTE). It aims to understand how neural circuits create our mental functions and how these circuits change in brain disorders. Combining advanced neurotechnologies and facilities such as the Netherlands Brain Bank (NBB, established in 1985), Non-Human Primate (NHP) Unit, Sleep Lab, and Spinoza Centre for Neuroimaging, the NIN investigates the brain at multiple levels using a cross-species approach (from mice to NHPs and humans). By linking insights from human Magnetic Resonance Imaging (MRI) and post-mortem studies to knowledge about neural circuits and molecular mechanisms, the institute aims to unravel how brain activity shapes mental processes in health or disease. Research topics span from visual input via the retina to the brain's output (action), such as behaviour, sleep, eating, and endocrine activities. The levels of investigation range from the molecular to the social, including brain-to-brain analyses.

The NIN is led by a board consisting of a director and a managing director. The director has the final responsibility for NIN and reports to the KNAW management board. The managing director supervises the NIN's support teams, including Finance, HRM, Communication, facilities, NBB, etc. The NIN has a Management Team (MT) consisting of its board and two group leaders (rotating every two years), who meet biweekly to discuss strategy and operations. The NIN hosts 18 research groups that are led by group leaders, who meet with the MT monthly. The NIN also has a Postdoc Council, a PhD Council, a NIN-specific Divisional Committee (OC) of the KNAW Works Council, and a Scientific Advisory Board (SAB) consisting of external scientists.

3.2 Mission and strategy

During the past evaluation period, the NIN's main ambition was to establish itself as a globally competitive centre for research on brain circuits, with the mission 'to explain how circuits of neurons enable us to see the world and act upon it'. To achieve this, the strategy focused on (1) building critical mass, (2) investing in advanced techniques and technologies, and (3) strengthening the national role of the NIN as a central neuroscience hub. The following strategic aims were pursued during the assessment period:

- Hosting and recruiting top-tier research groups working on diverse yet overlapping topics, employing a wide range of experimental approaches.
- Introducing and developing innovative and important new techniques and technologies, strengthening the position of the institute as central neuroscience hub in the Netherlands and contributing to society by developing clinically relevant technologies.
- Optimizing NIN facilities and services. NIN facilities are crucial for technology development and execution of (animal) experiments according to the highest standards.
- Improving external communication and informing the public about neuroscience research.
- Strengthening interaction with the Spinoza Centre.

- Improving transparency of decision making and communication by the NIN leadership.
- Improving the housing situation.
- Training the next generation of leaders in the field of neuroscience.

Later in the assessment period, two additional strategic aims emerged: (1) leveraging the NIN's unique expertise in brain circuits to advance understanding, diagnosis, and future treatments for psychiatric disorders, and (2) investing in open science and enhancing the sharing of technical and scientific expertise, as well as data, in the field of brain research. Also, in response to developments in the field and upon reflecting on its strategy and position, the NIN developed a new shared vision and mission. It decided to strengthen the interaction and collaboration between neuroscience and psychiatry to advance beyond the current limitations of diagnosis and symptom management for mental disorders. It therefore adopted as its new mission statement: 'The Netherlands Institute for Neuroscience aims to understand the neural circuits that create our mental functions and how they change in brain disorders.'

The committee is positive about the formulated goals and strategic aims. While it finds them clear and well-chosen, it notes that the goals do not consistently describe specific actions or targets. At the same time, the committee learnt that the formulated goals provided NIN management and staff with sufficient direction over the last few years to work toward these aims in an effective manner. The committee invites the NIN management to consider whether the future aims should be formulated in a more concrete manner henceforth.

The committee discussed the new mission (to strengthen the connection between neuroscience and psychiatry) extensively with NIN stakeholders during the site visit. It was convinced that this move toward psychiatry is indeed fitting and promising. The committee learnt that the new direction is not entirely new but instead emerged from past and current NIN research. During the visit, the committee encountered many researchers whose work touches upon psychiatry and mental disorders, or who identified promising new research directions and collaborations linked to psychiatry. The strategic move towards psychiatry should allow the NIN to be at the forefront of developing new insight into the neural mechanisms underlying psychiatric symptoms and to tap into new funding possibilities and translational directions (see also the sections on societal relevance and viability in this report). The committee therefore fully supports the NIN's new mission.

3.3 Research Quality

Contributions to body of scientific knowledge and marks of recognition
Over the past period, the NIN contributed to gaining insight into the neural circuits that underlie mental functions through a number of discoveries on various overarching themes, which unite several research groups. One such theme is social and affective neuroscience, which explores how the brain supports social behaviours and emotions, integrating insights from psychology, psychiatry, biology, and neuroscience. Another is 'day and night', focusing on (disturbances in) the alternation of sleep and wake. Various research groups work on the theme of axons, where neuronal output occurs in the brain and spinal cord. Further prominent themes are vision and cognition as well as lifelong learning. During the site visit, the committee was introduced to a wide range of research topics belonging to these themes, ranging from insomnia research to neurodegeneration.

The NIN's research staff (91,7 FTE) had a research output over the period 2018-2024 that consisted of 140-180 peer-reviewed academic journal articles, ~10 PhD theses, and 3 book chapters per year. The institute published in prominent scientific journals, notably in Nature, Science, Cell, Cell Stem Cell, The Lancet

Psychiatry, The Lancet Neurology, Nature Genetics, Nature Human Behavior, Nature Communications, Neuron, Science Advances, Science Translational Medicine, and The Journal of Experimental Medicine. An analysis by the Centre for Science and Technology Studies (CWTS, Leiden) of 723 NIN publications that appeared in the period 2018-2022 showed that the use of NIN research products by peers is significantly higher than the world average. The mean normalized citation score (MCNS [full], i.e., the average of citations per publication, normalized by field and year) was 1.89 times the world average, and 20% of the NIN publications ranked within the top 10% of most cited publications in the field. This percentage increased from 19% in 2018 to 23% in 2022. These numbers compare well with other top neuroscience institutes in Europe of similar size and organization.

NIN scientists were successful in obtaining prestigious personal grants, including numerous NWO Veni, Vidi, and Vici grants, ERC MSCA fellowships, as well as other fellowships from HFSP-O, ZonMW, the Bial Foundation, and Stichting MS research. Furthermore, NIN scientists obtained two ERC Advanced grants, one ERC Starting grant. and two NWO Aspasia grants. In addition, NIN scientists received numerous project grants, including NWO Gravitation grants, KNAW Strategiefonds grants, etc. The NIN also obtained contract research funding from various partners, such as Parkinson NL, AN Bio.Research and Sanquin. Several NIN scientists received prizes during the evaluation period, and many participated in conferences, committees, and editorial boards.

The committee considers the NIN's contributions to science as outstanding and world leading. As an institute focused primarily on fundamental research, the NIN rightly focuses on top-tier journals with high impact and visibility. At the same time, this research leads to significant translational and even clinical impact (see also the section on societal relevance further on in this report). The committee highlights the success and high visibility of NIN researchers in a broad number of fields, both with and without links to psychiatry and all connected to its central mission.

Hub function
One of the NIN's strategic aims as a KNAW institute is to strengthen its position as a central neuroscience hub in the Netherlands. It does so by establishing collaborations, and by developing and offering access to cutting-edge technologies, techniques, and facilities.

For instance, the NIN is involved in the NeuroTech-NL Consortium, which includes neuroscientists, technical scientists and clinicians from every Dutch university, relevant companies and several patient organizations. The consortium addresses critical challenges and unmet needs in neuroscience and neurotechnology. Another collaborative project is the Institute for Chemical Neurosciences (iCNS), a multidisciplinary national consortium dedicated to uncovering the molecular and cellular mechanisms underlying brain diseases and psychiatric conditions, supported by an NWO gravitation grant. NIN groups also collaborated internationally during the evaluation period, teaming up with over 80 international partners in 23 countries, in smaller or larger joint programmes funded by, for instance, FlagEra grants, Wellcome Trust grants, and the Human Brain Project. Countries with which the NIN performed most collaborative projects include USA (19), Switzerland (18), France (14), UK (14), and Germany (10).

The committee values the NIN's efforts to establish and foster national and international collaborations very positively, considering that the NIN plays a prominent and important role in the Dutch neuroscience landscape by connecting research institutions and ensuring coherence in national neuroscience initiatives. The institute actively facilitates collaboration between universities, research hospitals, and government agencies. Its leadership in large-scale research collaborations positions the NIN as a key player in coordinating neuroscience research at a national level. The committee supports the NIN in aiming to

enhance such collaborations. By means of such projects, the translational aspects of the NIN's fundamental approach are reinforced and the connection with clinical research and application becomes more prominent. At the same time, the NIN retains its fundamental research core, thereby occupying a clearly distinctive position in the broader scientific field.

Facilities

The NIN offers, or contributes to, numerous facilities and services that enable external as well as internal research collaboration. An important facility is the Netherlands Brain Bank (NBB), which was established at the NIN's predecessor NIBR in 1985 to study brain disorders through postmortem brain tissue. The NBB is an open access resource for high-quality, well-characterized brain tissue. For nearly 40 years, it has operated a national prospective donor programme to increase the availability of brain samples for scientific research. With over 5,200 collected brains from donors with neurological and/or psychiatric disorders as well as neurotypical brains, and currently more than 5,000 registered donors, the NBB has established an autopsy collection that is clinically and neuropathologically extremely well-characterized and consists of high-quality tissue. The NBB collaborates with national stakeholders, including patient organizations, clinical research cohorts, and national media, to raise awareness for the donor programme and research enabled by NBB materials.

Another major facility is the Spinoza Centre for Neuroimaging, constituting a collaboration between the Amsterdam University Medical Center (AUMC), Vrije Universiteit (VU Amsterdam), and the NIN/KNAW. As of 2022, the research group of the Spinoza Centre's director transitioned from an independent status within the KNAW to becoming part of the NIN. The Spinoza Centre was established in 2015 and serves as a core research facility and knowledge hub. The Spinoza Centre houses a 3 Tesla and an ultra-high field 7 Tesla MRI-scanner. The latter enables brain imaging at unprecedented high resolution. The Spinoza 7T MRI is the most powerful MRI machine in the Amsterdam area, and the only one in the Netherlands certified for clinical use. Over 400 researchers from Amsterdam and the surrounding region utilize the Spinoza Centre's facilities to study human brain function and brain disorders.

During the site visit, the committee also visited the Sleep Lab, Mechatronics Department, and Primate Facility. The Sleep Lab is used by several research groups for sleep research and is well-equipped. The Mechatronics department offers researchers at NIN technical support, working on made-to-measure techniques in close consultation with researchers and occasionally contributing to technical innovations in the process. The Primate Facility is a small-scale facility where Non-Human Primates (NHP) enable a cross-species approach (from mice to monkeys and humans).

The committee evaluates the NIN facilities as excellent and (nationally and/or internationally) unique facilities and services that contribute to its research quality and draw collaborative partners and research to Amsterdam. For instance, NBB and Spinoza Centre both function as knowledge hubs where national and international research come together. The committee points out that the NBB is an important asset: not only does it function as a tissue bank, but it also actively promotes research directions and boosting innovative approaches. For instance, the NBB plays a pivotal role in enhancing the NIN's new focus in psychiatry, since it embarked on a conscious effort to enhance the number of donors with psychiatric diseases as early as a decade ago.

The NIN is anticipating a move and upgrading of the institute and some of its facilities in the autumn of 2025; it also faces some challenges regarding the continuation of the Primate Facility and the collaborative requests put on the NBB. These topics are further discussed under 'Viability'.

Internal collaboration and academic culture

The NIN strategically stimulates internal collaboration and aims at heightening its 'critical mass' (as mentioned in the strategic goals) by hosting and recruiting research groups that explore diverse yet overlapping topics, using a wide range of experimental approaches. The NIN aims for a culture focused on genuine discovery rather than exclusively pursuing publications in high-impact journals. All NIN research groups collaborate. These collaborations are often inspired by joint journal clubs, lab meetings, or symposia. They are not only initiated by group leaders, but also by junior researchers. By partnering with and leveraging the scientific and experimental strengths of other groups, NIN researchers conduct studies at the intersection of various neuroscientific disciplines, leading to joint publications and the acquisition of grants. Open discussions about results and active collaborations among researchers contribute to a culture of transparency and collective progress.

In an effort to further enhance such fruitful internal collaborations, the NIN fosters an academic culture that attracts talented scientists who are eager to work together. Recently, various efforts were made to improve internal communication, increase staff involvement, and enhanced management-staff interactions. For instance, periodic staff surveys have resulted in initiatives such as a triannual interactive town hall meeting during which ongoing issues are discussed, and all employees are asked to share feedback and ideas. The NIN now also organizes monthly 'Support each other' meetings, where support teams present their activities and services to all employees, as well as life-long learning seminars, where NIN scientists explain their research to support staff. Social events play a key role in creating a sense of community at the institute. A group of volunteers organizes Friday evening drinks, along with several other events such a summer institute outing, Christmas dinner and party, and a New Year's celebration. To encourage scientific interaction, the NIN organizes a weekly Neuroscience Symposium featuring both internal and external speakers. In addition, group leader meetings start with a scientific presentation by one of the group leaders. Joint lab meetings and journal clubs also contribute to the exchange of scientific ideas and knowledge. In this setting, recent initiatives to boost inclusion and diversity (see also under 'Viability') further contribute to an open and collaborative atmosphere.

In fostering scientific collaboration and research quality, the NIN adheres to research integrity standards such as the Netherlands Code of Conduct for Research Integrity. Research integrity is formally integrated into the NIN's annual appraisal interviews. Moreover, most PhD candidates are required to take research integrity courses as part of their university programmes, equipping them with a solid foundation in ethical research practices. To address concerns related to research misconduct, confidentiality officers are present at both the NIN and the KNAW. This ensures that researchers have a safe and reliable means to report and resolve integrity-related issues.

The committee is impressed by the NIN's open and vibrant academic culture. During the site visit, it noted that research at the NIN is clearly a team effort, and that the collaborative atmosphere clearly impacts excellent research quality. The NIN community offers junior as well as senior scientists the opportunity to work together and inspire one another. The efforts to include support teams and connect them to scientific staff are also appreciated by the committee. During the site visit, the committee learnt that the current management is investing in further opening this culture by promoting open communication and transparency, also regarding its own decisions. As a result, NIN employees testified to the committee that they feel included and heard. The committee applauds the academic community created at the NIN and encourages initiatives to maintain and enhance this at all levels.

3.4 Societal Relevance

The NIN is dedicated to curiosity-driven research, producing fundamental scientific insights, but it also aims for its research to have significant societal relevance. During the assessment period, NIN researchers collaborated with clinicians to better understand neurological and psychiatric disorders, identify biomarkers, develop novel therapeutic approaches, and develop clinically relevant technologies. NIN researchers also had (and maintain) regular interactions with patient organizations. For instance, the aforementioned NeuroTech-NL consortium unites key players in the development of next-generation brain implants. NIN researchers collaborate with organizations supporting individuals with visual impairments, including Visio, Bartimeus, and the Oogvereniging. Through its sleep registry, the NIN has supported the establishment of a patient organization for people with chronic insomnia. The institute also interacts with patient organizations related to psychiatric disorders, including Nedkad and the ADF Stichting, which focus on prevalent psychiatric disorders such as depression, anxiety, obsessive compulsive disorder, and phobias. A dedicated panel of individuals who experience these disorders visits the NIN approximately three times a year. Moreover, researchers at the NIN and Spinoza Centre collaborate closely with researchers from Radboud University (Nijmegen) to study patients represented by the Ataxia Foundation.

The NBB collaborates with multiple patient organizations and clinical cohorts to recruit donors, and improves procedures based on patient perspectives. NBB representatives regularly attend events such as Stichting Plus Minus (bipolar disorder) patient days, National MS days, MS Research patient days, and Narcolepsy Contact Day. In addition, to establish a brain donor program for ME/CVS research, the NBB partnered with patient organizations ME/CVS Nederland and the ME/CVS Vereniging.

New insights emerging from NIN research hold significant value for national and international policy. Annually, NIN researchers actively participate in societal organizations and policy advisory committees that align with their research activities. Several NIN researchers have contributed to policy reports, including advice on animal experimentation and the ethics of brain prostheses. Policymakers also actively consult the NIN.

NIN research has resulted in several patented technologies, products, and professional practices that have been licensed to industrial stakeholders. The KNAW's Knowledge Transfer Office (KTO) supports researchers and institutes with patent applications, setting up interactions with industrial partners and obtaining funding for private-public partnerships.

The general public shows a strong interest in brain research, and awareness that psychiatric disorders originate in the brain is not yet widespread. Therefore, informing the public about brain function is an important part of the work of the NIN. During the assessment period, the NIN strategically increased its efforts to share knowledge with the public, bridging the gap between science and society, and raising awareness about the importance of brain research. Among other things, this was done by launching a new NIN website, increasing social media presence, and publishing more articles aimed at the general public.

The committee is impressed with the NIN's societal relevance. As mentioned before, this aspect is gaining prominence as the NIN enhances its network function and actively seeks external collaborations. Turning to psychiatry, even more opportunities present themselves due to new links with policymaking, clinical investigation, and application. The committee applauds the fact that the NIN is thriving in this respect, enhancing a strong societal impact through proactively engaging with stakeholders including clinicians, patient organizations, industry, and the general public. The committee was presented with many impressive examples of NIN research contributing to translational neuroscience, which led to advances in brain imaging, simulation techniques and other clinical applications.

3.5 Viability

Future strategy

The NIN's future strategy continues to focus on building critical mass, investing in advanced techniques and technologies, and strengthening its role as a national neuroscience hub. As mentioned earlier, it specifically intends to achieve these aims by strengthening the interaction between neurology and psychiatry. The committee applauds this direction as the psychiatry link emerges bottom-up from NIN research over the last years. The NIN is planning to invest in collaborative research projects that bring together neuroscientists at the NIN and psychiatrists across the Netherlands. In the opinion of the committee, such collaborative projects with translational potential offer opportunities for innovative new research directions, while also ensuring that the NIN is well-positioned to gain new project grants soon.

At present, many NIN researchers are already working on psychiatry-related topics or are interested in doing so. At the same time, the institute also fosters the research lines that do not immediately represent this new direction, allowing groups to work on fundamental themes that may have no connection to psychiatry. The committee fully supports this. Research unrelated to psychiatry continues yielding impressive and important results and forms the backbone of NIN research. The committee discussed the position of researchers whose work does not have a connection with psychiatry with NIN management and stakeholders. It learnt that the move towards psychiatry is always optional, and that academic freedom is held in high esteem at the NIN. In fact, recently hired group leaders are not primarily selected for their interest in psychiatry-related research but based on their match with the institute as a whole. These new hires must have a will to collaborate across groups and disciplines and are also selected based on specific interests and techniques they bring with them. The NIN aims to foster a collaborative atmosphere, believing that as its researchers inspire each other, the increase of psychiatry-related research in some groups will act as a catalyst among other groups. According to the committee, this is a laudable way of increasing impact.

The committee learnt that the institute is considering an initiative concerning specialized training for medical doctors (MDs) in both neuroscience and psychiatry, with the intention of building a generation of MDPhDs capable of conducting research at the intersection of these fields. The committee noted that this initiative is still in its early stages, and that there are a number of hurdles in launching such interdisciplinary training. For instance, the collaboration and financing between the NIN on the one hand and psychiatry departments at hospitals on the other require further thought and discussion.

Facilities upgrade

In the autumn of 2025, the NIN will undergo a partial move and upgrading of the institute and some of its facilities. The committee learnt during the site visit that most NIN staff agree that an update is needed for certain facilities and labs, which are outdated. However, the move leads to a reduction in square metres. The committee discussed this with NIN staff and management and was told that an efficient design is planned to limit possible negative consequences of such a reduction. The NIN is not planning to grow and intends to retain its current size, balancing new hires with staff retirements. For existing staff, a few adjustments and efficiency measures (e.g., moving buildings) are unavoidable on all levels. The committee learnt from staff members that the changes create some tensions and uncertainties among NIN personnel. The committee thinks this is unavoidable when such changes are made. It points out that transparent communication about the process, the decisions made, and the consequences for individual staff members is required to ease the transition.

Many of the facilities currently at NIN will remain in place and/or be upgraded. The committee learnt that just before the site visit, a decision by KNAW to phase out the Non-Human Primate facility was revoked. The

committee wholeheartedly supports the continuation of this facility, stressing the importance of NHPs in fundamental and especially translational neuroscience. For many of the ground-breaking insights and techniques discovered at NIN, the step from mice to humans is simply too large and would prevent translational and clinical research and application. A good example for this stepwise transition from animal to NHP research with consequences for human intervention is the study of the visual system which not only led to ground-breaking discoveries but also to the development of clinical applications that are currently being tested by industrial partners. Importantly, the NIN facility does not only adhere to international and European standards for such facilities, but far surpasses these, creating an optimal non-human primate research facility. Closing this well-established and well-functioning lab would signify that researchers would have to go elsewhere for NHP research, making use of labs with much lower standards.

Open science

The NIN intends to invest in open science practices and in enhancing the sharing of technical and scientific expertise, as well as data, in the field of brain research. At present, the NIN has started making all its publications openly accessible. Additionally, it aims to store all data on NIN servers in an accessible and machine-readable format and will establish more pipelines to facilitate data sharing in alignment with FAIR principles. Wherever practical and beneficial, the NIN also aims to share hardware designs and code to support research in the broader scientific community. Furthermore, the institute aims to continue modernizing the NBB to expand its impact and enrich its collection through the development of the Netherlands Neurogenomics Database in collaboration with the NBB partners. In addition, the NIN aims to involve stakeholders, such as patient organizations, companies, and psychiatrists in its research projects whenever this is appropriate. To help achieve these goals, the NIN has developed an Open Science Policy that is being implemented at present and provides guidance to NIN scientists on best practices and effective strategies for achieving them.

The NIN has made substantial progress in open access publishing, as evidenced by the increasing number of open access publications with a NIN affiliation. For papers where a NIN scientist is the last author, nearly 100% was open access in 2023 (~80% Gold open access). To further encourage the use of Gold open access, the NIN now expects research groups to cover the first €3,000 of article processing charges, with any additional costs covered by the central NIN budget, starting summer 2024. When Gold open access is not chosen, the NIN ensures Green open access through the Taverne agreement. In addition, the NIN strongly encourages its scientists to share the submitted versions of their manuscripts on preprint repositories (bioRxiv in particular) to provide earlier access to their work for the scientific community.

At the NIN, individual scientists and research groups actively share tools and designs with the international neuroscience community. Examples include the open hardware design of a miniature microscope, Neuropixels data acquisition software, and an image segmentation tool. To facilitate the sharing of software and designs, the NIN maintains a dedicated GitHub repository. To further enhance the sharing and findability of reusable data, the NIN has invested in both infrastructure and guidelines for data curation. The institute invested €350K in data servers, providing 1 Petabyte of storage capacity to ensure data is stored securely and organized consistently. Data and associated documents, such as ethical approvals, are stored using a standardized folder structure defined by the NIN Data Storage Protocol. Currently, 87% of all data generated at the institute is stored according to this folder structure. To further increase this proportion, research groups will bear the cost of storing data that does not comply with the Data Storage Protocol starting in January 2025. In the next evaluation period, the NIN aims to ensure that all data with reuse potential is published alongside publications in standardized formats with appropriate metadata. Researchers are already encouraged to use the Follow Your Data (FYD) system that has been developed at the NIN to support this ambition.

The committee appreciates the efforts put into promoting open science at the NIN. The development of protocols and policies and their active enforcement have already yielded impressive results. The committee applauds the NIN's dedication to open science and agrees that this is an important aim, especially since it fits KNAW policy, and the knowledge hub function the NIN aspires. It encourages the institute to continue to pursue a structure to develop, store, and share research data.

At the same time, the committee learnt from the documentation and the conversations during the site visit that more could be done and that the institute faces challenges regarding open science. First, systematic sharing of all reusable data is hindered by temporal, legal, and privacy constraints. Currently, the NIN has limited ability to share privacy sensitive human data, affecting publications and grant applications about human neuroscience. Tasks such as determining which data should and legally can be shared, curating and converting data into standard formats, annotating metadata, and identifying appropriate sharing platforms are often complex and time-consuming. In addition, the inter- and multidisciplinary nature of the institute means that numerous traditions come together in handling and sharing data. Finally, as the committee discussed with NIN scientists and the management, the amount of data is set to increase soon due to new technological developments, which will put an additional strain on data sharing and management within the institute.

At present, to further enhance data sharing while maintaining research productivity, the NIN is exploring ways to ease the burden on scientists by consolidating the work of its communication team, data steward, data privacy officer, and ICT team, and building a new support structure. However, qualified experts will have to be hired within the NIN facility departments to spearhead this effort. The committee advises the NIN to get more expertise on board in answer to these challenges , including at least one data steward. It also advises to look for a legal advisor to support opening privacy-sensitive data and provide case-specific advice to researchers. At present, there is legal expertise available at the KNAW, but the NIN would benefit much more from in-house expertise that is immediately available in emerging cases. As an interdisciplinary institute, the NIN is often pioneering, and it should be receiving full support in balancing data sharing and data security. The committee understands that hiring such support staff is a challenge, but it finds this to be a top priority for the next evaluation period.

Another challenge for the NIN has been the restrictions placed on the NBB regarding the sharing of data and brain tissue. In line with the national knowledge security policy, implemented by the KNAW, requests from institutions and companies in certain countries were temporarily put on hold due to potential security concerns. As a result, processing times have been significantly delayed. The committee points out that academic freedom and open science are important values that need to be respected. It also points out that the NBB staff are experts in advising on its materials and their use with extensive experience in actively filtering and vetting the requests it receives. According to the committee, such specific expertise is needed regarding decisions who to share data and expertise with. Also, this should be decided on a case-by-case basis.

Human Resources Policy

The temporary nature of most NIN research projects leads to a relatively high staff turnover rate. In 2024, 44 new staff members were recruited; the NIN has an HR team (2.8 FTE) dedicated to recruitment and onboarding. The committee met with various recently recruited group leaders as well as postdocs and PhD candidates coming into the NIN and learnt that they were quite satisfied with the welcome and the introduction they received. Staff members whose temporary employment contracts are nearing expiration or who are facing partial occupational disability are offered workshops and personalized advice to help them secure alternative positions outside the KNAW.

At present, the gender distribution among most groups of NIN employees is approximately balanced at 50%. However, the representation of women among group leaders is lower and needs to remain a point of attention. One-third of all employees (including support staff) are non-Dutch, with most of this group originating from European countries. Various new initiatives were undertaken recently to stimulate diversity, such as the 'NINclusion' team dedicated to boosting inclusion at the NIN. Following the KNAW's D&I project plan (2023), which proposes institute-specific action plans, the NIN has recently developed its own D&I action plan. This plan describes SMART-defined actions and goals (specific, measurable, achievable, relevant, and time-bound), most of which have already taken place or occur recurrently. These include the annual celebration of diverse inclusion and cultural events, the hiring of two female group leaders, the implementation of undesirable-behaviour training for nearly 200 employees, the establishment of a fully equipped nursery/prayer/meditation room, and the organization of various workshops and training events.

The NIN intends to train the next generation of leaders in the field of neuroscience and therefore emphasizes providing opportunities for personal and professional development. A key initiative is the tenure-track plan, which addresses multiple levels, from junior to senior positions. The tenure-track plan offers new group leaders clarity regarding their expectations and encourages them to contribute to the NIN's strategic aims, including delivering excellent science (publications and grants), fostering collaboration, training junior staff, practicing leadership, engaging in outreach, and advancing novel techniques and technologies. To support staff and to enhance their competence, the NIN also provides various education and training opportunities. NIN staff have access to the services of the KNAW Centre for Career Development, which include individual coaching and various courses, such as Successful Grant Writing and the masterclass 'How to organize your research journey'.

Postdocs are encouraged to participate in scientific meetings and pursue relevant courses aligned with their research and career goals, supported by a dedicated training fund of the NIN (~€65K per year for the institute, including non-scientific staff). This budget covers both in-house and external courses, such as laboratory animal training, programming, leadership, and language courses. Both the NIN and the KNAW also organize career-oriented training sessions. Postdocs receive tailored support for grant writing, including detailed feedback and mock interviews to improve their proposals. The NIN encourages postdocs to apply for independent fellowships, such as Veni grants, and may provide contract extensions through conditional permanent appointments (currently 9) when successful. Applications for larger grants, including Vidi or ERC Starting grants, are first discussed with all group leaders to ensure alignment with the NIN's strategic aims, as these grants may lead to tenure-track positions requiring reserved institute budgets. Currently, three former postdocs with critical knowledge or skills, essential to the viability of research groups, have obtained a permanent position.

The committee applauds the HR policy and practices it encountered at the NIN. Staff members at all levels are presented with a clear career trajectory and are happy with the onboarding and the open academic culture at the institute. There is a climate of cooperation where diversity and inclusion have gained prominence, and policies are being developed and implemented to enhance such aspects. The staff members (both scientific and support staff) are offered training and opportunities befitting their career stage. The KNAW structure adds more general training options to those offered at the NIN specifically.

The two main challenges for HR at present are increasing diversity and inclusion and hiring necessary specialized staff. Regarding diversity and inclusion, the committee encourages the NIN to continue its efforts to improve the balance, particularly at the PI level. Regarding the hiring of specialized staff, the committee finds that the NIN is doing an excellent job in hiring new group leaders that bring specific thematic and

technical expertise to the table and that have a demonstrable interest in a cooperative and interdisciplinary environment (see also 'Research Quality'). However, this interdisciplinary nature also makes it hard to find or replace staff members that combine certain outlooks and techniques which are not always easily found outside the NIN. As an example, the NIN is currently searching for a computational neuroscientist. The committee agrees with the NIN that such a staff member will be of importance of the NIN soon, especially considering the above-mentioned increasing scale and complexity of datasets resulting in a need for additional computational expertise. The committee urges the NIN to keep on searching actively to fulfil this key role in the longer term.

PhD Policy and Training
The NIN has between 40 and 50 PhD candidates working at the institute. The NIN does not have the *ius promovendi* and cannot award doctorates. As a result, all NIN PhD candidates are also enrolled at a Dutch university. This is the university affiliated with their PhD supervisor, typically the NIN group leader holding a special professorship. These universities each have their own set of rules and regulations regarding the PhD trajectory and thesis requirements.

Apart from their primary supervisor (the NIN group leader), each candidate also has a second supervisor (co-supervisor), who can be a collaborator, another NIN group leader and/or the promotor in case the NIN group leader does not hold a (special) professorship. At the start of the PhD trajectory, research and training goals are outlined in an education plan. Appraisal interviews are held after four and nine months, with the latter serving as a go/no go decision point. From then on, progress of the PhD trajectory is monitored annually in a discussion between the candidate, supervisor, and co-supervisor. The outcomes of these discussions are documented as amendments to the education plan. After 2 years, a mid-term evaluation takes place that involves the supervisor, co-supervisor, and an external scientist, with HR monitoring the process.

All NIN PhD candidates participate in national graduate schools as part of their educational plan. Most of them participate in the Graduate School Neurosciences Amsterdam Rotterdam (ONWAR), a collaboration between neuroscience departments at UvA, AUMC, VU Amsterdam, Erasmus University Rotterdam (EUR), and the NIN. ONWAR provides a comprehensive training program, including hands-on courses in molecular and cellular imaging, programming and grant-writing, as well as advanced neuroscience topics, from clinical and cognitive neuroscience to neurogenomics and electrophysiology. General courses (e.g., statistics) are also offered. NIN scientists actively participate in ONWAR committees and course organization. Each PhD candidate is assigned an ONWAR tutor positioned at a different institution to address potential issues. Other PhD candidates may enrol in different graduate schools, such as VU Amsterdam's Graduate School of the Faculty of Behavioral and Movement Sciences, depending on their research focus and the affiliation of their PhD supervisor.

The NIN, ONWAR, and the KNAW organize career events to help PhD candidates explore post-graduation opportunities, connecting them with professionals in academia and industry. In addition, each year, the NIN presents the Brain Awards, celebrating exceptional contributions of PhD candidates and postdocs to neuroscience research. The awards alternate annually between recognizing postdoctoral researchers and PhD candidates. Winners receive a €1,000 prize and a specially designed statue, presented during a festive ceremony where awardees present their work.

Over the period of evaluation, NIN-employed PhD candidates who started between 2015 and 2020 required an average of 5.8 years to graduate (time of start until date of graduation), despite efforts to shorten the duration such as introduction of a mid-term evaluation. Delays were partially caused by COVID-19 disruptions resulting in significant delays (~3-6 months). However, structural issues and possible research

field-specific challenges also contribute to the relatively long PhD trajectories at the NIN. Delays frequently occur when PhD candidates begin postdoctoral positions before completing their thesis. Career grant eligibility deadlines exacerbate this issue by disincentivizing swift thesis completion. To address this, the NIN MT advises group leaders to ensure PhD candidates complete their theses before leaving the institute and continue to receive salaries until then. Another factor contributing to delays is the pressure to produce multiple high-quality publications for the thesis.

In addition, 19% of PhD candidates at the NIN discontinued their PhD track prematurely for various reasons, including termination of the contract after the go/no-go moment, underperformance, (mental) illness, or a misalignment with their skills and aspirations. To address these issues, the NIN is working on improving communication on expectations, better assessing the competencies of applicants during recruitment, and providing more structure and planning throughout the PhD process. PhD representatives conduct yearly surveys to identify and discuss issues that are important to them with each other. Twice a year, the PhD candidates meet with the NIN board to discuss concerns requiring management action and collaborate on improvements.

Based on its conversations with PhD candidates and supervisors at the NIN, the committee concludes that their training and monitoring is well organized and sufficient. It appreciates the fact that this aspect has improved over the past years. The current structure provides PhD candidates with a clearly outlined plan and regular evaluation moments. Expectation management surrounding the trajectory is addressed as supervisors discuss the PhD candidates' ambitions more often. If a PhD candidate is hesitant about pursuing an academic career, supervisors and candidate may agree to aim for less ambitious publications. If the candidate wants to continue in academia and make a mark with their research output to jumpstart their careers, supervisors may explore ways to provide them with additional funding to prolong the PhD and publish in highly visible neuroscientific journals. Such extensions are not uncommon and impact the PhD completion rates. PhD candidates feel well-supported and at home in the NIN.

At the same time, there is room for improvement. First, PhD candidates would benefit from additional 'formal' evaluative moments further on in their trajectory beyond those at four and nine months and the midterm evaluation. The committee specifically recommend that during these evaluation conversations, the supervisory team should include an external advisor (as is now done in the midterm evaluation) who can reflect on the process more objectively. This promotes the candidate's well-being and allows for reflection on the supervision itself. Secondly, a PhD coordinator at the NIN would be helpful: at present, PhD candidates often go to the ONWAR coordinator when dealing with non-research-related questions and can address HR if they run into problems. A PhD coordinator would function as a low-threshold first point of contact. In a similar vein, NIN should also consider appointing a postdoc coordinator.

An issue that NIN PhD candidates and their supervisors struggle with is the fact that different demands are placed on them dependent on the university where they defend their PhD. Often, quantitative publication or experimental chapter demands are imposed that are unrealistic in the field of (interdisciplinary) neuroscience. Universities typically require ~3-4 experimental chapters, with 1-3 published as first- or co-first-author papers in international journals. Such thesis requirements very likely lead to delays for NIN PhD candidates, while differences among universities create unfair advantages for some candidates. While many university departments are currently re-evaluating their thesis requirements, the KNAW and the NIN have no authority regarding these decisions. The committee understands the encountered difficulties but advises the NIN to continue playing an active role in reducing these differences and ensuring that not too much is expected of a PhD candidate.

4. Executive summary and recommendations

4.1 Summary

According to the committee, research at the Netherlands Institute for Neuroscience is of excellent quality. The NIN boasts world-leading expertise and outstanding scientific output. The institute combines excellent facilities, including the Spinoza Centre, NHP, and Netherlands Brain Bank (NBB), with fundamental research that has a strong societal impact. The institute fosters interdisciplinary research, and an academic culture centred around cooperation and academic freedom. It values open science and offers an environment where excellence, scientific exploration and teamwork go hand in hand. The NIN has a solid future strategy in place where the connection of neuroscience and psychiatry gains prominence. HR policy and practice and the training of staff, including PhDs and postdocs, are fully in line with the NIN's goals. The institute strives for inclusion and diversity, and the steps that are being taken in this direction show promise. The NIN aims to become a central neuroscientific hub in the Netherlands and abroad and is rightly focusing on external cooperation and communication to further boost this function.

The committee agrees with NIN management and staff that its future challenges include promoting open science in an interdisciplinary context and handling, storing, and sharing research data. The institute should be staffed to be able to handle this well soon, where data streams become larger and more complex. The committee also finds that the non-human primate facility, which adheres to and even exceeds the highest standards worldwide, should be continued in the future to ensure research quality, translational investigation, and ultimately clinical application. Likewise, the NBB should be trusted to take decisions regarding the sharing of data and expertise on a case-by-case basis. Finally, PhD success should be boosted by adding an external supervisor to the thesis trajectory, by appointing a PhD coordinator as a first point of contact (as well as a postdoc coordinator in parallel) and by taking an active role in the ongoing discussion with the various universities about what should be expected of a PhD thesis. The committee is certain that the NIN is currently well-placed to take on such challenges and to continue producing excellent science and scientists at the forefront of neuroscience.

4.2 Recommendations

- Continue pursuing a structure to develop, store and share research data. Get more expertise on board in view of the considerable increase in data by adding not only a data steward, but also a NIN-specific legal advisor in view of patient data security.
- Continue efforts to hire a computational neuroscientist to accommodate new research directions and data flows.
- Appoint a PhD and a postdoc coordinator as a first point of contact for these young researchers to enhance support and wellbeing.
- Expand formal evaluative moments in the PhD trajectory and structurally include an external advisor who can reflect on the process outside of the PhD-supervisor relationship.
- Continue taking an active role in reducing the differences in university requirements for PhD theses, and in ensuring not too much is expected of a PhD candidate.
- Continue efforts to boost diversity and inclusion on all levels, specifically increasing the number of female group leaders.

Appendix 1: The SEP 2021-2027 Criteria and Categories

The committee was requested to assess the quality of research conducted by the UHS as well as to offer recommendations in order to improve the quality of research and the strategy of the UHS. The committee was requested to carry out the assessment according to the guidelines specified in the Strategy Evaluation Protocol. The evaluation included a backward-looking and a forward-looking component. Specifically, the committee was asked to judge the performance of the unit on the main assessment criteria and offer its written conclusions as well as recommendations based on considerations and arguments. The main assessment criteria are:

1) **Research Quality:** the quality of the unit's research over the past six-year period is assessed in its international, national or – where appropriate – regional context. The assessment committee does so by assessing a research unit in light of its own aims and strategy. Central in this assessment are the contributions to the body of scientific knowledge. The assessment committee reflects on the quality and scientific relevance of the research. Moreover, the academic reputation and leadership within the field is assessed. The committee's assessment is grounded in a narrative argument and supported by evidence of the scientific achievements of the unit in the context of the national or international research field, as appropriate to the specific claims made in the narrative.

2) **Societal Relevance:** the societal relevance of the unit's research in terms of impact, public engagement and uptake of the unit's research is assessed in economic, social, cultural, educational or any other terms that may be relevant. Societal impact may often take longer to become apparent. Societal impact that became evident in the past six years may therefore well be due to research done by the unit long before. The assessment committee reflects on societal relevance by assessing a research unit's accomplishments in light of its own aims and strategy. The assessment committee also reflects, where applicable, on the teaching-research nexus. The assessment is grounded in a narrative argument that describes the key research findings and their implications, while it also includes evidence for the societal relevance in terms of impact and engagement of the research unit.

3) **Viability of the Unit:** the extent to which the research unit's goals for the coming six-year period remain scientifically and societally relevant is assessed. It is also assessed whether its aims and strategy as well as the foresight of its leadership and its overall management are optimal to attain these goals. Finally, it is assessed whether the plans and resources are adequate to implement this strategy. The assessment committee also reflects on the viability of the research unit in relation to the expected developments in the field and societal developments as well as on the wider institutional context of the research unit

During the evaluation of these criteria, the assessment committee was asked to incorporate four specific aspects. These aspects were included, as they are becoming increasingly important in the current scientific context and help to shape the past as well as future quality of the research unit. These four aspects relate to how the unit organises and actually performs its research, how it is composed in terms of leadership and personnel, and how the unit is being run on a daily basis. These aspects are as follows:

4) **Open Science:** availability of research output, reuse of data, involvement of societal stakeholders;
5) **PhD Policy and Training:** supervision and instruction of PhD candidates;
6) **Academic Culture:** openness, (social) safety and inclusivity; and research integrity;
7) **Human Resources Policy:** diversity and talent management.

Appendix 2: Programme of the site visit

SEP evaluation Netherlands Institute for Neuroscience
March 18th – 20th 2025

Tuesday March 18

17:30 – 18:00	Welcome
18:00	Kick-off dinner (committee, MT and NIN Group Leaders)

Wednesday March 19

08:30 – 09.30	Preparatory meeting Committee
09:30 – 10:30	Meeting with MT and general introduction
10:30 – 11:00	Coffee
11.00 – 11:30	Meeting with chair of the Scientific Advisory Board
11:30 – 12.45	Presentations and interview new group leaders
12:45 – 13:20	Lunch
13.20 – 14.35	Circuits to Psychiatry
14:35 – 14:50	Committee meeting
14:50 – 15:35	Interview with group leaders
15:35 – 16:05	Interview with Coordinator Graduate School Neurosciences Amsterdam Rotterdam (ONWAR) and chair ONWAR Swammerdam lectures committee
16:05 – 16:30	Committee meeting
16:30 – 17:00	Discussion with OC
17:00 – 17:45	Discussion PhD candidates
17:45 – 18:30	Interview about Open Science (with NIN Data/Open Science Committee)
19:30	Dinner committee & committee meeting

Thursday March 20

8:30 – 08:40	Circuits to Societal Relevance
9:00 – 9:45	Interview with group leaders
9:45 – 10:00	Coffee
10:00 – 10:05	Movie new building
10:05 – 10:35	Primate facility
10:35 – 10:50	Mechatronics
10:50 – 11:20	Brain Bank
11:20 – 11:40	Sleep lab
11:40 – 12:15	Spinoza Centre
12.15– 13:00	Lunch
13:00 – 13:45	Meeting committee with a delegation of the postdocs
13:45 – 14:45	Posters PhD candidates and postdocs
14:45 – 16:15	Committee meeting with coffee
16:15 – 17.00	Meeting with MT
17:00 – 17:40	Final committee meeting
17:40 – 18:00	Presentation preliminary conclusions to NIN (GLs)
18:00 –	Drinks whole NIN

Appendix 3: Quantitative data

Quantitative data on the research unit's composition and funding, as described in SEP Appendix E, Tables E2, E3 and E4:

- Input of research staff;
- Funding;
- PhD candidates.

Table 3.1 Staff numbers

Year	2018		2019		2020		2021		2022		2023		2024	
Category	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE	#	FTE
Scientific Staff[1]	16	14,3	18	16,3	18	16,3	21	17,6	20	17,1	20	17,1	19	16,1
PhD Candidates	30	28,6	30	29,1	40	38,1	50	48,6	42	40,5	48	46	42	41
Postdocs	28	25	25	21,5	32	28,5	27	24,9	27	24,6	31	29,5	37	34,6
Total Research Staff	**74**	**67,8**	**73**	**66,8**	**90**	**82,8**	**98**	**91**	**89**	**82,1**	**99**	**92,5**	**98**	**91,7**
Scientific Support Staff	49	45,9	49	46	47	41,6	44	39,4	49	45,1	54	48,8	64	55,1
Support Staff	22	19,1	24	21,5	26	23,2	27	23,6	29	26	27	24,3	31	26,9
Total Staff	**145**	**132,9**	**146**	**134,3**	**163**	**147,7**	**169**	**154**	**167**	**153,2**	**180**	**165,6**	**193**	**173,7**
Visiting Fellows	4	-	4	-	5	-	6	-	5	-	7	-	7	-

FTE: Fulltime Equivalent
[1] Researchers with a permanent position and group leaders

Table 1.1 Funding & Expenditure

in K€	2018	2019	2020	2021	2022	2023	2024
Direct funding[1]	10,021	10,225	10,497	10,934	11,608	12,296	12,586
Research grants[2]	2,766	2,364	1,905	2,875	3,479	3,409	3,947
EU and contract research[3]	2,531	2,859	2,368	3,515	3,248	3,719	4,276
Other[4]	1,538	1,423	1,535	1,581	1,692	2,653	2,262
Total Revenues	**16,856**	**16,871**	**16,306**	**18,905**	**20,027**	**22,078**	**23,071**
Personnel expenses	−9,354	−10,630	−10,652	−12,294	−12,192	−12,795	−14,620
Other costs	−5,869	−6,234	−5,304	−6,450	−5,723	−7,446	−7,180
Total Expenses	**−15,223**	**−16,864**	**−15,956**	**−18,744**	**−17,915**	**−20,240**	**−21,800**
Financial income and expenses[5]	−3	−2	−2	−1	0	482	735
Result	**1,630**	**5**	**348**	**161**	**2,112**	**2,319**	**2,006**

[1] Direct funding (KNAW lump sum budget), [2] Research grants obtained in national scientific competition (e.g.,grants from NWO and KNAW), [3] Research grants and contracts obtained from other organizations, such as EU, industry, government ministries, and charitable organizations, [4] Other income (e.g., Netherlands Brain Bank), [5] Interest

Table 6.2 - Duration of PhD trajectories

PhD candidates with a contract at the NIN:				Graduated in:													
starting year	enrolment			<4 yr		<5 yr		<6yr		<7yr		total graduated		not finished yet		discontinued	
	male	female	total	#	%	#	%	#	%	#	%	#	%	#	%	#	%
2015	2	8	10	0	0%	2	20%	2	20%	1	10%	7	70%	2	20%	1	10%
2016	2	7	9	0	0%	1	11%	3	33%	1	11%	7	78%	2	22%	0	0%
2017	4	3	7	0	0%	0	0%	0	0%	1	14%	1	14%	2	29%	4	57%
2018	3	4	7	0	0%	1	14%	3	43%	0	0%	4	57%	3	43%	0	0%
2019	1	6	7	0	0%	1	14%	0	0%	0	0%	1	14%	3	43%	3	43%
2020	3	11	14	0	0%	3	21%	0	0%	0	0%	3	21%	9	64%	2	14%
Total	15	39	54	0	0%	8	15%	8	15%	3	6%	23	43%	21	39%	10	19%

Guest PhD candidates*				Graduated in:													
starting year	enrolment			<4 yr		<5 yr		<6yr		<7yr		total graduated		not finished yet		discontinued	
	male	female	total	#	%	#	%	#	%	#	%	#	%	#	%	#	%
2015	2	2	4	0	0%	2	50%	0	0%	0	0%	4	100%	0	0%	0	0%
2016	2	2	4	0	0%	2	50%	1	25%	0	0%	4	100%	0	0%	0	0%
2017	1	6	7	1	14%	2	29%	4	57%	0	0%	7	100%	0	0%	0	0%
2018	4	6	9	1	11%	0	0%	3	33%	1	11%	5	56%	3	33%	1	11%
2019	1	1	2	0	0%	1	50%	0	0%	0	0%	1	50%	0	0%	1	50%
2020	0	3	3	1	33%	0	0%	0	0%	0	0%	1	33%	2	67%	0	0%
Total	10	20	29	3	10%	7	24%	8	28%	1	3%	22	76%	5	17%	2	7%

* PhD candidates under end-responsibility of the NIN, incl PhD candidates of Willuhn, Kalsbeek, La Fleur and including PhD candidates with a scholarship (for example: from the Chinese Scholarship Council)