



Lab Handbook

Predictive Brain Lab





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Relevant abbreviations: DCCN (Donders Center for Cognitive Neuroimaging), DCC (Donders Center for Cognition), DI (Donders Institute), TG (Technical Group), ICT (Information and Communication Technologies), PPM (Project Proposal Meeting), RUM (Research Update Meeting), PI (Principal Investigator), RA (Research Assistant), AI (Artificial Intelligence), SL (Statistical Learning), JC (Journal Club), OSF (Open Science Framework), DSC (Data Sharing Collection).



Welcome

Welcome to the Predictive Brain Lab! We are a group of researchers led by Floris de Lange at the Donders Centre for Cognitive Neuroimaging (DCCN), which is part of the Donders Institute for Brain, Cognition, and Behavior (DI), embedded within the Radboud University of Nijmegen. The aim of this document is to provide all members of the lab with clear information on how we operate and ensure that you have a great time working in the lab. This handbook contains detailed information on being part of our group, what is expected from our lab members, and the assistance we can provide for your professional development.

The current manual should work as a reference point by providing you with all the necessary information for an overall positive social and professional experience during your time here. We expect all new members of the lab to have read the document by the end of the **first month** after starting at the lab.

The guidelines described are constantly evolving according to the needs of the group. If you are currently part of the lab, we encourage you to provide suggestions or modifications to the handbook. For any questions or concerns, you may directly contact Floris (floris.delange@donders.ru.nl) or post a message in the corresponding communication channels of the lab (e.g., mattermost or weekly meetings). The last update of the handbook was done in **May 2024**.

The current manual has been inspired by the work of some of our colleagues (Rogier Kievit, [the WIN Physics group at Oxford University](#), and [Mariam Aly Lab](#)). Thank you for sharing your resources.

- *The Predictive Brain Lab Group*



Science and Mission

The goal of the Predictive Brain Lab is to understand how the brain manages to make sense of the world so rapidly and robustly, based on a vast amount of noisy and ambiguous sensory inputs.

Our guiding hypothesis is that the brain constructs predictive internal models of its environment using a process of self-supervised learning and compares the predictions from this model with incoming sensory inputs. This predictive processing strategy may enable both efficient encoding of incoming signals, rapid and robust perceptual inference based on those signals, and continuous learning of the complex and hierarchical statistical regularities that exist in the world.

Therefore, the ability of the human brain to generate predictions about yet unseen data - and to update its models based on the mismatch between predicted and actual data - may be a fundamental building block underlying the intelligence of the human mind.

We study the computational and neural implementation of prediction in perception and cognition. We use an integrative and multidisciplinary approach, by investigating and comparing predictive processing in different modalities (e.g., visual, auditory, language), under both constrained and naturalistic conditions, using complementary techniques (psychophysics, eye-tracking, fMRI, MEG, AI-inspired computational modelling) and species (human, monkey, mouse).

The aim of our research is to contribute fundamental knowledge of the general operating principles of the brain that enable us to understand our surroundings and successfully interact with it.

The Predictive Brain Lab is supported by several funding sources, e.g. the Netherlands Science Foundation (NWO) and the European Research Council (ERC). For more information regarding the research carried out at the lab please see the [website](#) or the lab's wiki.



Roles and Expectations

This specific section describes our views and expectations on how the lab is run, how science is done, and how we interact within the lab aiming for a positive, stimulating, and rewarding experience. Active participation from all members is essential for achieving these goals.

General Expectations

- Engage in tasks that align with your passions. Contribute to projects that you are proud of. Do work that others will care about.
- Science demands precision, so it's crucial to consistently verify your work. Take your time and **always** double-check it. Keen attention to detail is crucial for good science.
- Making mistakes is part of being human. If mistakes happen in our work, promptly communicate with collaborators (if they have already seen the results, and especially if the paper is being written up, is already submitted, accepted, or published). Acknowledge and correct errors—we learn and progress together.
- We all want to get papers published and do great things. Let's achieve success through **honesty**. Never resort to plagiarism, data tampering, faking results, omitting data, or fudging results in any way. Science is about finding out the truth. **Null and unexpected results are still important.** It cannot be emphasized enough: **always uphold academic integrity.**
- Be supportive of your lab mates. Science thrives on collaboration. In the lab, we strive to help others when necessary. Help whenever you can and expect to be helped back. **We are a team.**
- Work independently when you can, ask for help when you need it.
- Share your knowledge. Mentorship can take many forms.
- Respect each other's strengths, weaknesses, differences, and beliefs. Both professionally and personally, always communicate openly and with respect.
- If you are facing challenges, reach out to Floris, or if you feel more comfortable with this, [the university services](#). Your well-being is a priority. The lab cares for each member's health and happiness. We are here to support you. For more information on well-being, see the section [Work and Wellbeing](#) below.
- Science is a marathon, not a sprint. Take personal time/vacation when you need it and cultivate a life outside of the lab. Respect that other lab members also have a life outside of the lab.

Roles

Our group is comprised of researchers at various career stages: MSc and PhD candidates, post-doctoral researchers, and a principal investigator. Each lab member



has distinct roles and associated expectations. This section will briefly outline each role and potential challenges. However, it's crucial to remember that each individual is unique, and responsibilities may vary slightly based on that.

Principal Investigator (PI)

Role?

Floris de Lange is the PI for the Predictive Brain Lab.

Research is considered the primary responsibility of the PI. This entails shaping the lab's scientific vision and participating in research projects through supervision and collaboration. Moreover, PIs have a range of responsibilities associated with managing the research group, including overseeing external projects, committees, writing grant applications, reviewing, etc.

What can you expect?

Floris will provide academic and personal support, along with clear communication of expectations. He'll actively contribute to the ongoing research by offering guidance and mentorship to students and early career researchers. This involvement will typically take the form of regular supervision meetings where various topics will be discussed based on the needs of both parties. **Based on preferences and needs, meetings take place on either a weekly, biweekly, or ad hoc basis, but no less than once per month. This is the same across all roles in the lab. Meeting duration is usually between 30 to 60 minutes.** When booking a slot, consider the amount of time you might need for the meeting. You do not need to feel forced to use the entire hour if there is nothing else you want to discuss. Every year, usually in December, there will be an *Annual Discussion* meeting, in which Floris will meet with each lab member individually and discuss their progress in that academic year. The lab uses a personalized form for this meeting which can be found [here](#). For more general information regarding the annual discussion, you can visit the intranet [website](#).

Challenges?

Floris' schedule and to-do list is typically quite busy, involving management of diverse situations, decision-making that impacts the research lab, and responding to numerous messages from internal and external parties. It's crucial to distinguish between situations that require the PI's input and those that do not. Always provide advance notice when you need Floris' input, allowing sufficient time for scheduling. For topic-specific meetings, aim to be as prepared as possible to maximize your benefit from them. Clear deadlines and timely reminders as final dates approach are appreciated.

Post-Doctoral Researchers

Role?



This term applies to the academic position held after successfully completing a PhD and before securing a faculty position (e.g., assistant, associate, full/ professor). This stage is characterized by growing independence in their careers, with them developing their own research line. Post-doctoral researchers usually have their own research projects, which may involve collection of, and/or analysis of data. Data collection may be aided by e.g. Research Assistants or Internship Students, depending on needs and funding (can be discussed with PI). They may also provide supervision to other lab members (other post-docs, PhD candidates, MSc internship students, and rotation students), if there is an appropriate match in terms of topic and schedule availability. Supervision duties can range from daily supervision to more confined supervision related to a specific part of a research project. **This should be clearly discussed at the start of the supervision.** A part of a postdoc's role is to disseminate their work through conferences and lab/departmental events.

What can you expect?

Oftentimes, post-doctoral researchers possess expertise in specific methods or theories, enabling them to guide other lab members on how to approach particular issues and supervise MSc and/or PhD students. Additionally, you can expect them to disseminate expertise within the group and engage in critical discussions during lab meetings. Active involvement in the lab's daily activities is expected. This entails attending general meetings, participating in the AI/SL/Journal clubs, and joining other (Donders Institute) meetings.

Challenges?

Some of them will be in a transition period deciding whether to continue pursuing a research career in academia or take on an industry job. Hence, some of their time will be spent on applying for grants/fellowships or other jobs. The transitional period inherent to the position as well as the increase of independence can make this time particularly challenging.

PhD Candidates

Role?

PhD candidates in the Netherlands usually pursue a four-year trajectory towards a scholarly thesis supervised by the PI of the lab. A significant amount of research output coming out of the lab is the result of the work done by the PhD researchers, who dedicate most of their time to their own experiments (*i.e.*, this is the primary task of their PhD position).

What can you expect?



Supervisors can expect PhD candidates to provide them with updates on their projects during their check-up meetings and be actively involved in the lab's activities. In the Predictive Brain Lab, this involvement extends to supervising students (MSc internship students, and rotation students (*if there is an appropriate match in terms of topic and schedule availability*)), attending general group meetings, participating in the AI/SL/Journal Clubs, and joining other (Donders Institute) meetings.

Being employed at the Donders also entails certain expectations from the institution. PhD candidates will have to fulfill requirements from the graduate school. These entail scheduling checkpoints to assess your progress, taking part in (mandatory) graduate school days, taking (skills) courses, and a PhD Job. General information on these different expectations can be found [here](#). For more specific information, [this intranet page](#) is very useful.

Challenges?

PhD trajectories can be seen as a path to acquiring skills, learning how to be an independent scientist, and shaping your own way of thinking. Research serves as a training ground in which struggles tend to be part of the learning process. Hence, it is recommended to seek support both within (such as sharing experiences with fellow PhD candidates) and [outside the research lab](#) to navigate these ups and downs successfully. The Predictive Brain lab frequently organizes (optional) social activities that encourage non-academic interaction amongst lab members (*see Mattermost 'social' channel*).

Visiting PhD Candidates

Role?

Visiting PhD candidates join the research lab for a short period, usually a few months, to explore a specific research area or methodology and acquire new skills. It also fosters networking and collaborations between research labs.

Expectations?

Visiting PhD candidates are expected to share their work with lab members, contribute with their expertise, and collaborate closely with others to acquire new skills. As with any other members of the lab, they are expected to be actively involved in the lab's activities. This entails attending the general and Donders meetings and participating in AI/SL/Journal clubs.

Challenges?

The short duration of a visiting position means candidates must quickly adapt to the institutes and lab's structure, conduct research, and familiarize themselves with ongoing projects. All of this, while getting used to being in a new city or country. The number of new situations can make the process challenging.



Research Assistants

Role?

Mostly, pre-doctoral graduates or current (MSc or BSc) students working towards gaining experience in a research setting. Specific responsibilities vary according to the lab's needs as well as the expertise of the student, encompassing tasks from organization roles to aiding in data collection.

What can you expect?

Supervisors, whether the PI or another senior researcher, can expect research assistants to provide regular updates on their assigned projects. RAs are generally available to assist fellow researchers in the lab with piloting experiments or collecting data. You can expect RAs to be knowledgeable in their own methodological and theoretical training and open to learning new techniques relevant to the lab's projects. If they have specific interests or skills they wish to develop, they can directly discuss them with Floris during their individual meetings.

Challenges?

Given the role's flexibility, it can be challenging for research assistants to know exactly how to allocate the different hours of their time. Additionally, since their position is often part-time, effective management is crucial to balance work and non-research-related activities.

Internship Students

Role?

The Predictive Brain Lab frequently hosts internship students both from the Radboud University Cognitive Neuroscience MSc program and other programs and universities, typically lasting between 6-12 months. The goals and expectations will vary according to the specific project, but in general, they will (partly) develop and carry out their own research project.

What can you expect?

Interns are expected to give regular updates to their supervisors on their project, and, when applicable, offer assistance in data collection/analyses. As a lab member, you're expected to participate in various lab events, such as general lab meetings, AI/SL/ Journal club, and other educational activities.

Challenges?

The nature of the internship means that goals and expectations will vary per person. Effectively communicating their goals for the internship to their supervisor in order to



devising a fitting plan is a key challenge for interns. In many cases, this will be the first research experience for students. Thus, time and resource management can be difficult during the first stages of the placement. The lab's wiki might be a very useful resource for interns, as it contains helpful tutorials and guides on technical skills (e.g., coding, writing, etc.) used by members of the lab.

Internal Service Roles

As part of the Predictive Lab Group, various roles need to be fulfilled to ensure a lively and stimulating lab experience. These roles involve the organization of the (digital) resources and group activities. By distributing the workload, we can prevent the burden from falling unfairly on a few individuals and allocate tasks based on each researcher's responsibilities both within and outside the lab. Service roles are for the duration of one academic year (from September to August).

What are some of the roles we are referring to?

- Organization of the Journal Club
- Chairing the AI or SL club
- Lab Retreat Organization
- Group Meeting Organization
- Social Activities (e.g., drinks, dinners, excursions, meetings with other groups)
- Annual Lab Evaluation
- Website, Wiki, and Lab Handbook Maintenance
- Organization of Lab Rotation
- Treasurer

To see who is currently responsible for each role, click [here](#). Some of these roles will involve more effort, so multiple researchers will be assigned to them. The wiki contains more information on how to fulfill each of these roles. If you would like to take on a specific service role, please let Floris know. If at any point during the academic year, you feel that your responsibilities are putting a disproportionate strain on your main line of research, please discuss this with Floris.



Code of Conduct

A major priority for the Predictive Brain Lab is to ensure that every member of the group has an enjoyable and fulfilling research experience. To enable this, every individual that is part of the lab in any capacity is expected to always show respect to the other members of the community. It is encouraged that everyone familiarizes themselves with Radboud University's regulations on undesirable behaviour, which can be found [here](#).

The group is committed to creating a safe, friendly, and inclusive space for everyone. **We have a zero-tolerance policy for any form of harassment within our community.** Inappropriate behaviour encompasses verbal or physical violence associated with gender, sexual orientation, disability, physical appearance, body size, race, religion, sexual images in public spaces, intimidation, stalking, following, unwanted photography or video recording, sustained disruption of discussions, inappropriate physical contact, and unwelcome sexual attention. All types of communication sustained at the lab should be suitable for a professional setting. This means that sexual language and imagery, insults, and sexist, racist or exclusionary jokes are **never acceptable**.

If you witness any of the aforementioned behaviours or have any concerns about them, you can always contact Floris, or if you feel more comfortable with this, the correspondent university authorities. Information about confidential advisors for various situations can be found [here](#). For guidance on how to submit a complaint related to harassment, academic integrity or any other type of concerning behaviour, please refer to this [site](#).

PhDs and postdocs can also contact the DCCN's confidential contact person for a low-threshold conversation and help: Esther Aarts (esther.aarts@donders.ru.nl).



Life in the Lab

Starting at the Donders Institute

Starting at the lab begins with your PI, Floris, submitting a **desk-request** on your behalf. From then, the human resources (HR) department of the DCCN (the part of the Donders where you will be hosted) will manage the request, providing you with a **U-Number** (*i.e.*, your staff number to sign-in and identify yourself) and a new Donders email address (you can login from Outlook). The managing assistant will make sure a **desk** is assigned to you. You will be receiving an email containing this information.

The first thing you will need to do once arriving at the Donders is do the **check-in procedure**. This can be done every working day between 9 am to 10 am at the entrance desk of the building. An employee will guide you through practical information and direct you to other offices as needed. The second step involves visiting the Technical Group, where you'll receive a work laptop (if applicable), a VPN to access the DCCN network, and a username to access ICT services (intranet). After setting up your account and obtaining important information from ICT, you can proceed to your desk and start your work! You can read [some recommended first steps](#) given by the university to familiarize yourself with the campus, salaries, insurance, etc.

Within your first month at DCCN, you will receive an email invitation from the administration to a **mandatory** Introduction Meeting. This meeting is essential for getting to know other new members and essential information about the institute. Keep an eye on your private email, the one you used for communication with HR and Floris before being hired, as you might be receiving such an invitation there.

For most of the online services of the university you will need to access them using your **u-number, your email address or the username selected at the ICT meeting**. For information on the ICT services available from the university please refer [here](#). This page will contain information on how to access your email address, Microsoft Office, Wi-Fi, etc.

An important information resource of the Donders Institute is the **intranet**: <https://intranet.donders.ru.nl/>. This is the internal website used by employees containing information on different practical matters such as facilities and resources. To log in, use the username assigned during the ICT meeting. Once you have successfully logged in, choose the DCCN symbol on the top banner to display all relevant information for our hosting institution. **Important:** to successfully login to the intranet you must be at all times connected to the EduVPN or use the laptop provided by ICT.



Getting Started at the Lab (Resources)

Mail and Calendar

During your initial meeting with Floris, he will assign you a “buddy”, who will be another member of the lab. Your buddy will help you get set up, show you the meeting and lunch locations, and they can help you with any questions you may have in the initial period. Floris will add you to the **Google group** named **Predictive Brain Lab**. This will automatically put you on a **mailing list** in which you will receive updates about group meetings, dinners, talks, etc. To schedule one-on-one meetings with Floris, you can directly book a slot on his calendar “[Floris DCCN](#)” on the Google Group, indicating your name and the purpose of the meeting. This way, Floris will be informed about the meeting and its agenda beforehand. In case any of the parties cannot attend the meeting, remember to let the other know and reschedule (if needed) to a time that suits both. To receive notification in your email about any changes made to the appointment, add yourself to the event in the Google Calendar (we recommend to always do it). The lab also has a [Google Calendar](#), in which most meetings and locations are indicated. However, this is not as regularly updated as the mailing list, thus we recommend keeping track of these emails.

Mattermost

All online communication within the lab occurs via email or [Mattermost](#) (*i.e.*, an online collaboration platform). Mattermost team allows the members of the lab group to communicate effectively with each other using channels or through direct messages. Group channels are topic-focused discussions that are visible to the group members (and that lab members can join). The most important ones are the following:

- General (issues concerning everyone are discussed here)
- Journal Club (information relevant to the journal club is discussed here)
- Paper Highlights (papers that may be of interest to lab members and the selection of the research article for that week happens here)
- AI Club (information relevant to the club is discussed here)
- SL Club (information for the weekly meeting is discussed here)
- Help desk (any questions you might have and any lab member might be able to help are posted here)
- Social (social activities for the members of the lab are announced here)

To access Mattermost, log in using your university-provided email account. To join the **Predictive Brain Lab** group, you can do it through this [link](#). Other relevant groups in Mattermost include DCCN and DI, which feature channels for institution-wide discussions.



To join a channel is very simple:

- Select the mattermost team you want to browse through (these are located on the top left of the screen: *e.g.*, predictive brain lab, DCCN, DI)
- After selecting the relevant team, on the left side of your screen a list of the different channels you belong to will appear. *Note:* these are not all the channels of the group, but only those you are currently a member
- Scroll through the channel list and at the bottom you should find the **Add Channels** option. This will allow you to browse through the existent channels.
- Read the descriptions and join those that seem relevant to you!

Website

The Predictive Lab's website is <https://www.predictivebrainlab.com>. Here, you will find general information on the lab's research goals, affiliated members, lab publications, photos from social events and news from the lab. To create or update your personal profile, please fill out the questionnaire provided in the following [link](#). The lab member in charge of the website will update it accordingly.

For any inquiries or suggestions regarding the website, feel free to reach out to the website manager or Floris.

Wiki

The lab's wiki serves as a repository for technical information relevant to our common research practices. It provides access to various tools and resources tailored to Predictive Brain lab members, including standard operating procedures, communication guidelines, programming, and statistical tutorials, and instructions for using neuroimaging facilities. If you have valuable information to share, please contribute to updating the lab wiki by communicating it with the member responsible for it.

Leaving the Lab

Finalizing your time at the lab entails scheduling and taking part in an **exit interview** with Floris. This session is for you to provide feedback about your experience as a lab member and the supervision that was provided. It is also an opportunity for Floris to provide feedback on your contributions to the lab. Additionally, during this meeting ongoing projects and deadlines will also be addressed to clarify expectations and avoid misunderstandings (*e.g.*, whether in your new lab you will finish the ongoing project, whether this will be assigned to a new lab member, authorship policies, etc.). In this way, hopefully, there will not be abandoned projects or any upsetting circumstances taking place. Other practical and professional development aspects (*e.g.*, sharing resources with lab members or support in a future position) might also be discussed to



ensure a smooth departure for both parties. You will be expected to provide contact information in case anyone in the lab requires your assistance regarding your work during the first couple of months following your departure.

As part of the Donders Institute protocol, every employee has to fill in a [check-out form](#). This document contains information regarding the key practical matters you must resolve before stopping your current position (e.g., clearing out your desk, returning keys, etc.). To begin the check-out process, visit the reception desk at the DCCN entrance, where an employee will assist you with practical information and guide you to the necessary offices for signatures. If you want to request the usage of the computing facilities after the end of your contract, you can request this with the **extended check-out form**. More information regarding this procedure can be found on the [intranet](#).

General Policies

Working Hours

You are expected to work the hours specified in your contract. However, you are allowed to organize your work hours in a manner that accommodates your individual working patterns. One significant advantage of an academic career is its flexibility compared to other professions. You are free to structure your hours as long as you can coordinate them with centralized events like lab meetings or departmental talks.

Being in the lab provides opportunities for learning from others, offering assistance, accessing resources quickly, and minimizing distractions compared to working from home. It is also crucial to ensure a proper set-up of experimental procedures and data acquisition. Regular in-person attendance is hence beneficial for the lab and the Donders Institute. While there isn't a strict rule, you are generally expected to be present 'in person' at least 50% of your working time. Wednesday and Thursday are optimal given the lab meeting, AI/SL clubs and [departmental talks](#) (e.g., [Poster Presentation Meetings](#), [Research Update Meetings](#), etc.) taking place. If you have a day without commitments, this may be a suitable opportunity to work from home.

Please always be mindful of the working hours of your colleagues. It is not expected from anyone to answer any emails or Mattermost messages during evening hours or on weekends. If for any reason something urgent has to happen on those days, a notice should be given to the lab members beforehand so they can accommodate their work accordingly.

In academic research work, certain projects or deadlines may **occasionally** disrupt your regular schedule, making work feel overwhelming. However, in our lab, we prioritize maintaining a healthy work-life balance. Hence, if you find yourself working more hours



than usual, remember that you are not expected to exceed the terms of your contract. If you have had to work extra hours in a week, consider taking shorter hours the following week to balance it out. **If you consistently feel overwhelmed**, please reach out to Floris or the [support resources for Donders employees](#).

Internal Meetings

Individual Meetings

In general, each full-time lab member (RA, MSc student, PhD student, Post-doctoral researcher) can request a designated regular (weekly or bi-weekly) meeting with Floris, or have irregular meetings on demand (at least once a month). **The meeting frequency may vary based on researcher preferences and can be arranged directly with Floris.** In case of conflicting schedules (e.g., Floris being away), meetings can be rescheduled or skipped. If you have a meeting scheduled but there is nothing specific to discuss on a particular instance, you can cancel the meeting. The typical meeting duration is between 30 to 60 minutes. For scheduling additional meetings with Floris, please refer to the [Mail and Calendar](#) section above.

Lab Meetings

Group meetings are held every week on **Wednesday morning from 11:00 – 12:30 in the Oval Office (room 00.073)**. **In-person attendance is expected** but if needed you can join via Zoom using the provided link [here](#). **Please let Floris know if you cannot make it to the lab meeting.**

The meeting commences at 11:00 with announcements relevant to all the members of the group followed by a quick check-up on everyone's week (the latter only if the lab meeting organizer thinks there is enough time for it). Afterwards, either one of the lab members presents a topic of their choice, which usually takes the form of:

- Introducing a new research idea
- Sharing the results of their latest experiment
- Providing an update on a project
- Presenting a relevant paper for diving deeper into a specific topic

Or, we have a **roundtable meeting** in which we discuss a topic relevant to all members of the lab (e.g., this handbook, retreat, etc.).

Presenting in these group meetings is a great opportunity to get feedback from other researchers. You should think and prepare your presentation to get the most out of it yourself. They do not need to be polished lectures (both in content and layout) but rather structured opportunities for exchanging opinions and refining your work (e.g., receiving feedback on initial design, PPM, interpretation of results, etc.).



At the beginning of the term, a schedule will be created for the following semester. All lab members are expected to present and encouraged to register for a suitable date. If spots remain open after a couple of weeks, [the person organizing the meetings](#) will randomly assign them. The current schedule can be found [here](#).

For any further questions about the lab meetings, please contact the organizer for the current term, post a message in the '**General**' mattermost channel, or contact Floris.

Journal Club

Every three weeks, group members convene to discuss a paper relevant to the lab's research interest for thorough analysis and discussion. These meetings are held on **Wednesday's at 13:00 pm in the Friston Room (00.013A) and via [Zoom](#)**.

Attendance is encouraged but NOT mandatory¹. The paper presenter rotates every session, and the schedule for the current block is available [here](#). Each member is expected to guide the discussion at least once a year, hence you can either sign up to a specific block on the schedule or wait to be added randomly to one by the journal club organizer. To encourage a lively discussion, all attendees should read the paper beforehand and prepare short questions or notes on aspects of the research they found intriguing. If time is limited, they should aim to at least read the Abstract and Figures.

To select a paper, the presenter can propose one to the group on the ***paper_highlights*** channel in Mattermost and see whether the group is interested in it (members can vote for the paper if they find it appealing). A suitable journal club paper candidate is typically concise and includes clear figures and tables. Alternatively, the presenter can choose a paper from this [list](#) (select the sheet *Notes JC*) curated by the lab members, post it on the Mattermost ***paper_highlights*** channel and cross it from the list. Everyone is expected to propose an article three weeks before their presentation date and finalize their selection two weeks prior.

The speaker should not prepare slides. Presentations can be done by scrolling on the PDF and focusing on highlighted text and figures. Ideally, the figures and their legends should be clear enough to convey the main messages of the paper.

Academic Clubs

As part of the lab activities, we host academic clubs where members meet every other week (according to the [schedule](#)) to discuss relevant research themes to the current research being performed by the group. Currently, the two different clubs we are hosting are: **AI Club and The Statistical Learning** (*note*: these might change in the near future according to the interests of the members of the lab). Generally, they involve examining a paper, watching a lecture together, hosting a guest speaker, or engaging in a round



table discussion. These meetings are held on **Wednesday's at 13:00 pm in the Friston Room (00.013A) and via [Zoom](#). Attendance for the academic clubs is encouraged but NOT mandatory¹**. The presenter and club topic rotates every session, with the schedule for the current block available [here](#).

If you are interested in presenting anything or inviting a speaker, please reach out to the respective club [organizer](#) of the block. Unlike the Journal Club, the specific type of meeting held will vary from week to week, making the guidelines for presenting and suggesting a paper more flexible. All that's required is preparing the literature/video for the week and a lot of enthusiasm!

Donders Institute Meetings

As a member of the Predictive Brain Lab, you are also part of the broader Donders Institute and one of the Donders Themes – [Perception, Action and Decision-Making](#) (see [here](#) for more info on the themes). Being both a lab member and an employee, your contribution to the institute is vital for maintaining its vibrant research environment. This entails attending events and actively participating on them whenever possible. Such engagement not only will enrich the department's atmosphere but also maximize your experience in the institute.

There are several of Donders-wide meetings. Upon your check-in as a new employee, you will be signed up to the mailing lists relevant to your position. The most important ones as a member of the lab are the following:

- **PPM (Project Proposal Meeting):** These meetings aim to introduce new research projects to the institute and gather feedback on them. Before any project (including yours) can commence, it needs to be presented as a PPM. This is regardless of whether you require or not to recruit participants. The general objective is to engage in a discussion about the general quality and feasibility of the study, covering aspects such as methods, data analysis, and ethics. **These meetings occur the 1st, 2nd, and 4th Thursday of every month. The starting time depends on the number of proposals (e.g., 12:00 when there are four proposals), and the PPM ends at 13:00. PPMs take place in the Red Room. You are expected to attend at least 50% of these meetings unless this conflicts with your current schedule¹.** The topic and specific details will be announced via the DCCN mailing list. More information about the meetings can be found [here](#).
- **Research Update Meeting (RUMs):** These meetings aim to update researchers at the Donders about the work of end-of-PhD researchers, Post-Docs, and PI's.



These meetings occur on Thursdays between 14:00 and 14:45 in the Red Room. They happen interchangeably with DCCN colloquia and DCCN lectures, so keep an eye on the admin mailing list. You are expected to attend at least 50% of these meetings unless this conflicts with your current schedule¹. The RUM schedule can be found [here](#), in the RUM section.

- **DCCN Colloquia and Lectures:** These meetings are designed to present the work of outstanding researchers in the field of neuroscience from around the world. **These meetings occur roughly once a month on Thursdays at 16:00 in the Red Room. You will be updated about them through the mailing list from admin and during the general group meetings. You are expected to attend at least 50% of these meetings unless this conflicts with your current schedule¹. The schedule can be found [here](#), under DCCN Lectures and the RUM Schedule PDF in the RUM section.**
- **Donders Theme Meeting (Theme 2):** These meetings aim to discuss important information for the researcher investigating topics that fall under the umbrella of Perception, Action, and Decision-Making. **These meetings occur on the 3rd Thursday of every month. The location and the schedule are announced via the mailing list. You are encouraged to attend these meetings, but it is NOT mandatory¹.**
- **MEG/EEG meeting:** These meetings aim to discuss EEG/MEG experimental design, data analyses, and interpretation of results. **They occur every Monday at the Oval Office and via [Zoom](#) between 12:00pm and 13:00pm. Attendance is NOT required.** For more information about the meetings, you can join the mailing list (ask the [administrative](#) services of the DCCN) or the Mattermost channel *MEG/EEG Analysis*.
- **fMRI Analysis Meeting (FAM):** These meetings aim to discuss fMRI analyses and acquisition. **They occur every Thursday between 10:00am and 11:00am at the Oval Office and via [Zoom](#). Attendance is NOT required.** For more information about the meetings, you can join the mailing list (ask the [administrative](#) services of the DCCN) or the Mattermost channel '*(f)MRI Analysis*.'

¹ To progress in science, it is important to explore beyond the boundaries of your own research project. While this may not seem efficient in the short term (e.g., there is always something urgent related to your current project), it will help you make connections between different research programs and become a more creative, well-rounded researcher. This is why attendance is encouraged. Nevertheless, there can be good reasons for skipping (e.g., data collection, strict deadlines). It is your own responsibility to weigh these factors and decide whether to attend the meeting.



If you wish to get more information on any of these meetings or search for other events happening at the Donders, you can see the following [link](#) or browse through the Mattermost channels on the DCCN group.

Work and Well-being

Work-life Balance.

Taking care of your physical and mental health is always essential for both job success and enjoyment. Therefore, we encourage you to allocate time to do things you enjoy and personal activities. While academia's flexibility allows for pacing according to personal preferences, it can become overwhelming for some individuals. For instance, certain projects or deadlines may lead to some researchers deciding to work longer days for a short period of time. It is important to remember that you are **NOT expected to exceed the terms of your contract**. If you have had to work extra hours in a week, consider taking shorter hours the following week to balance it out. **We recommend maintaining sustainable working hours** (*i.e., matching your natural body rhythm as well as the essential group-wise meetings*) **and utilizing your holiday days fully away from work! If you, for any reason, consistently feel overwhelmed**, don't hesitate to reach out to Floris or the [support resources for Donders employees](#).

Establishing clear and realistic expectations for yourself and your PI can help achieve a better work-life balance. What we mean by this is that you should try to clearly communicate what you believe you can achieve within a certain period given your other work commitments (feel free to remind Floris of your workload when discussing your tasks, as he oversees many individuals and may not always remember everyone's commitments.). Keep in mind that task durations can be unpredictable (even when you have accounted for a specific amount of time for them), so remain flexible and communicate any delays you might have to your PI. **Communicating clearly your personal situation is key for your own and your Floris' expectation management and can help you reduce stress during your work.**

Mental Well-being

Taking time to relax is crucial for overall mental health. If you are feeling unwell, you are encouraged to take sick days to rest and alleviate stress. No explanations are required to Floris or anyone else in the lab for taking those days off. In case you feel like your concerns require expert health support, the Donders offers a series of resources for employees (see [here](#)).



In case of sickness, make use of your sick days for it. The Radboud University has a protocol for it, [here](#). In summary, you have to report to Floris and admin that you are sick before the start of the working day. It is important for the institution as well as the government to report when you are sick. Please remember to do it. **Most importantly, if you are sick, take the day to recover. You are NEVER expected to do work.**

Yearly Lab Evaluation

Once a year, the lab organizes a meeting to assess the satisfaction and well-being of the lab members. We anonymously fill out a questionnaire covering work-life balance, responsibilities, policies, lab dynamics, and meetings. Responses are then discussed by everyone to address any dissatisfaction and come up with interventions to improve it. There is also space dedicated to other concerns in case someone has pressing matters that are relevant to other members of the lab. To get access to the questionnaire you can click [here](#). Additionally, if you have any more questions, the person responsible for organizing the meeting can also be found on this [link](#). In case there is a pressing concern that you would like to discuss with the whole lab or only with Floris before this event, you are encouraged to bring it up during your regular supervision meetings or during the general lab meeting.

Parental Leave

It may be the case that you get a child during your time as a member of the lab. There are existing university-wide policies in place that provide lab members with all the necessary information they might need during these times. Here, you can find some information specifically dedicated to [Pregnancy and Maternity Leave](#). In case this does not apply to you, this page has information on [Paternity Leave](#) more generally. There are also other [Family Support Services](#) from Radboud University that you might be interested in during these times, we recommend checking those out. Lastly, we encourage talking to Floris and the [HR services](#) early in time to create a plan that suits your needs during this period of your life (e.g., adjusting your hours, etc.)

Socializing

Creating a supportive and enjoyable environment usually comes hand-in-hand with building a cohesive group. In the Predictive Brain Lab, we have a series of social activities dedicated to getting to know each other in a more relaxed setting and building a stronger support network at work. **It's important to remember that all these activities are designed for your enjoyment, so participation is optional.** You should never feel obligated to join.



Group Lunches

Every Wednesday after the General Lab meeting, we all get together to have lunch at the canteen of the Trigon Building. Most other days of the week, people get together at ~12:00 in the canteen or, weather permitting, on the picnic benches next to the bike shed of the Trigon Building. You are always welcome to drop a message in the '**grouplunch**' channel in Mattermost.

Monthly Social Activity

Roughly every month, we have a couple of lab members organize a social outing for the whole lab, such as hikes, board game nights, drinks, dinners, etc. Information about these events will usually occur through the '**social**' channel in Mattermost. If you have any ideas or suggestions for a group activity, please [contact the organizer of this year. Here](#), you can find some pictures of previous lab outings or social activities! For current lab members, we also have a more extensive folder in which members add 'social activity' related pictures. You can access that [here](#) (*note*: you need to be logged into your Predictive Brain Lab Google Groups account for it to work)

Laboratory Retreat

Every year we arrange a lab retreat to a nearby area for a couple of days. This is an opportunity for old and new members of the group to get to know each other better and formulate scientific goals as a group. The retreats are usually a mixture of enjoyable social and intellectual activities planned by other lab members. If you ever have any suggestions or ideas, contact the [organizers of that year's retreat!](#)



Research Practices

Open Science and Reproducibility

In the lab we are committed to Open Science research practices whenever we can. The laboratory's general policy is to preregister all studies carried out by members of the group. Ideally, preregistration occurs around the time of the PPM (see [Donders Meetings section](#)), and before the start of data collection. Remember that it is always possible to deviate from your preregistration or perform exploratory analyses, as long as you are clear about it in your manuscript. We find both <https://aspredicted.org/> (following a specific structured format) and <https://osf.io/> (more freedom in the format) to be efficient platforms for pre-registration. Examples of preregistration formats from past lab members can be found here: <https://aspredicted.org/7un39.pdf> and <https://osf.io/q7gj3/>.

Any project analysis script should be easily reproducible by other lab members or external parties. Always write your code with the assumption that someone else has to reproduce your analysis without assistance.

For more information regarding standard operating procedures related to preregistration and reproducibility practices, please refer to our lab wiki.

Authorship

It is recommended to think about co-authors and collaborators early on for a new project. The lab generally follows the [APA guidelines](#) for authorship. Usually, researchers leading a project will be the first author. This entails seeing the paper through to publication, including submissions and revisions. In projects where Floris is the main supervisor, he will usually be the senior author. However, this may not apply if the contribution does not warrant authorship, if another researcher takes the role of main supervisor in collaborative projects, or for projects that are unrelated to the work of the researcher at the lab. The position of the other co-authors in between first and last author will be determined by how much they have contributed to the project. Given the complex nature of some of the projects carried out in the lab, the main author will often benefit from the expertise and input of other lab members or expert researchers in the field, which doesn't necessarily warrant co-authorship. Please discuss the author list and order with Floris and other co-authors early in the project (*i.e.*, before presenting the PPM) and re-discuss it if you feel it requires an update.

Important to remember is that for all paper submissions, consent from all co-authors is essential. Each researcher should feel represented by the work shared under their name.



Grants and Fellowships

There are several different academic funding programs that may be relevant for you, depending on the stage of your academic career.

- Marie Curie Individual Fellowships, for 2-3 years of postdoctoral fellowship https://ec.europa.eu/research/mariecurieactions/actions/individual-fellowships_en (should have a PhD degree at the time of the deadline for applications; should comply with mobility rules -- they must not have resided or carried out their main activity (work, studies, etc.) in the country of the beneficiary; includes a mobility allowance)
- NWO Veni grant, for 3 years of postdoctoral fellowship <https://www.nwo.nl/en/calls/nwo-talent-programme> (should have a PhD degree at the time of the deadline for application)
- Radboud Excellence Initiative, for 2 years of postdoctoral fellowship <https://www.ru.nl/excellence/> (should have a PhD degree at the time of the deadline for applications; is a non-Dutch national based outside the Netherlands, who has international experience and has no previous study or work experience in the Netherlands; will expect their fellowship to contribute to a future career move, such as a potential professorship.)
- EMBO grant, for 2 years of a postdoctoral fellowship <https://www.embo.org/funding/fellowships-grants-and-career-support/> (Applicants must hold a doctorate or equivalent at the start of the fellowship; includes a mobility allowance)

For all grant applications, please check the financial budget with the Financial Department before you submit your grant. Contact finance@donders.ru.nl ideally **2 months (the earlier the better) before grant submission.**

In general, you can always contact Floris to discuss any possibilities or reach out to [previous lab members](#) or other Donders researchers who might be in similar positions to you.

Career Progression

When the moment comes to move on from your time in the lab and pursue other positions or job opportunities, we are here to support you with references and guidance for your applications. The specific type of help and the member of the lab that might provide it will vary according to each specific case. For instance, introductions to alumni



or colleagues who can offer advice, or direct support with processes like grant writing or interview practices. Start the conversations with Floris early on to explore what support is available and make your transition as easy as possible both for you and the lab.

If you need reference letters from co-workers or employers, do not hesitate to ask any member of the lab. **It is always helpful to provide ample time and specific details about the positions, the required skills, and your CV!** This will ensure a well-suited letter of recommendation.

Travel and Conferences

Conferences offer a great opportunity to present your work to field experts, gather feedback and engage in discussions and networking. They usually feature scientific talks, posters, and other educational events. Since the Predictive Lab covers diverse topics and methods, there is not a specific set of conferences everyone goes to. Some that might be relevant based on experiences from previous years are:

- [Cognitive Computational Neuroscience](#) (CCN)
- [European Conference on Visual Perception](#) (ECVP)
- [Vision Sciences Society](#) (VSS)
- [Society for Neuroscience](#) (SfN)
- [The Dutch Society for Brain and Cognition](#) (NVP)
- [Neural Information Processing Systems](#) (NeurIPS)
- [International Conference in Learning Representations](#) (ICLR)
- [Cognitive Science Society](#) (CogSci)
- [Computational and Systems Neuroscience](#) (CoSyNe)

Conferences usually are a valuable experience for researchers, but they also entail significant preparatory work and can be time-consuming. **It is advisable to plan ahead and anticipate a busy schedule** (besides usual academic work consider visa applications, childcare for children, etc.). Many conferences are typically held between **May and July**, so try to keep this in mind when planning on attending one.

Travelling might be seen as an advantage of a job in academia, but it can also pose challenges, especially for those with caregiving responsibilities or disabilities. Members of the Predictive Brain lab should **never feel pressured** to travel and should not experience disadvantages for choosing not to do so. If this is the case, please contact Floris.



In a similar fashion as other labs around the world, we try to be mindful of our carbon footprint. Radboud University has introduced [sustainable travel policies](#), particularly [regarding business air travel](#). We recommend all members to familiarize themselves with these guidelines. **Overall, both the institution and the Predictive Brain Lab encourage the use of trains whenever possible.** In case a conference requires traveling by plane, researchers are expected to use their time wisely and plan other events at the conference destination (e.g., presenting their work in someone else's lab)

Funding

As part of the Predictive Brain Lab, the grants under which you are hired should provide resources to cover the registration, travel, and accommodation to a conference. If you make use of the grant resources to go on a multi-day conference outside of the Netherlands, you are expected to present your work from the lab either in a poster, talk or symposium. The general process for attending a conference is the following:

- **Discuss your plans and options with Floris.**
- Checking with Floris and/or finance (finance@donders.ru.nl) the budget for the conference
- Book your accommodation (using the Donders Services), travel, and conference registration.
- Declare it through [BASS](#), the institute's finance system.

If covering these expenses poses a financial burden, researchers can discuss options with [finance](#) for advance payment or seek advice from Floris.

Public Engagement

As part of the Donders Institute, we are committed to enhancing science literacy in society. In line with this, our lab encourages members to translate their findings into accessible language and explore non-academic outlets for sharing their work. Each member should find the public space in which they feel comfortable to do so. Examples of spaces online or in the city that lends themselves for these interactions are the [Donders Wonders Blog](#), exhibitions at the [Donders City Lab](#), the [muZIEUm](#), or the [Pint of Science](#). We recommend reaching out to other lab members who have experience with these public outlets to gain some insights and advice on how to find these platforms and effectively engage with them. Additionally, events organized by the Dutch Society for Brain and Cognition ([NVP](#)), such as the [Young NeuroLab](#), offer avenues for communicating research to early career researchers. To see some examples of the work of previous members, you can look at the lab's website [Social and News](#) section.