

WELCOME!

I'm glad you are considering joining us at UW. This document was written by me – Brody Foy – to outline the lab mission, vision, and values and to provide guidelines for prospective applicants.

MISSION, VISION, VALUES

Mission

We work on projects at the intersection of math, computation, and medicine. Our primary goal is to improve how the world uses clinical data sources, broadly defined. I want the lab culture to support high quality science, the education and training of our members, and to support the building of a rich non-work life too.

Vision

Our scientific vision is to produce tools that improve utilization of common clinical data sources, and lead to better health outcomes. This can be through many different pathways, such as:

- Developing refined biomarkers that enable patient-specific medical practice
- Using math modelling to better understand physiologic feedback loops
- Using machine learning to improve clinical logistics – saving patients time and money.
- Calibrating diagnostic approaches between high and low resource settings

We focus on routine data because we want our work to benefit healthcare settings across the world.

Values

What do I want our lab to be known for?

- **High quality, open research.** We produce good quality work, communicate it openly, and make active effort to ensure high reproducibility.
- **Engaging sincerely.** Many computational efforts in medicine are insincere or poorly targeted. If we want to generate clinical value, we need to engage with care and consideration.
- **Career success.** We want to support our trainees and employees towards fulfilling careers both in and out of academia. Academia is not a calling, it's a job.
- **Happiness and health.** Our lab will prioritize the emotional, mental, and physical health of all members. We support each other, and operate with kindness. We work to live, not live to work.
- **Collaborative.** We view others in our field as collaborators and colleagues, not competitors. We are seen as skilled and helpful scientists, eager to advance human knowledge.
- **Fun.** Our lab should be a place we enjoy working. The work can be hard, but we should always make time for the fun parts of science.

In short, I believe our lab should be **supportive to all backgrounds, prioritize health and wellbeing, support diverse career paths, and adhere to open science principles.**

GUIDELINES FOR PROSPECTIVE APPLICANTS

For most prospective applicants, the way to apply to the lab is to [email Brody](#). Applicants should always include a CV, and a briefly summarize 1) who they are; 2) why they are interested in the lab; and 3) any relevant background experience. Strong emphasis on **brief** – each of the above should be 1-2 sentences – you do yourself no favors by waffling.

UNDERGRADUATES

We can offer undergrad projects to UW students only. Projects are typically unpaid research-for-credit roles, with time commitments of 5-10hrs per week. If you have reached your credit limit for research we cannot offer you a role. When funding allows, we may offer paid summer research roles to students with prior experience in our lab. Applicants should have 1) programming experience in Python, R, or MATLAB; and 2) taken a university-level statistics course. University-level coursework in linear algebra, calculus, probability theory, or machine learning are all advantageous. List relevant courses in your email, and please include *UG APP*: in the subject line. We do not offer roles to high school students.

GRADUATE STUDENTS

Masters: I can supervise Masters projects. If you are currently enrolled in a UW Masters program and would like to discuss this, please email me with your CV, and a brief outline of your research goals.

PhD rotations: If you are currently enrolled in a UW PhD program and interested in a rotation project, please email me with your CV, and a brief outline of your research goals. Highlight what theme of our labs work you would most like to contribute towards. Please include *PHD ROT*: in the email subject line.

PhD admit: Very few UW programs offer direct admit – meaning I cannot directly admit you into my lab for a PhD. There are many great programs at UW you could consider applying for. If you believe you have a particularly strong fit to my lab in both your skillsets and interests, please email me to discuss. You should include your CV, a brief (2-3 sentence) overview of your skills, and a brief overview of your research goals. Note that due to the high uncertainty of admittance, only candidates with extremely strong potential fit to the lab will receive a response.

POSTDOCTORAL

If you are a postdoc with interest in our lab, please reach out. We often have funding available even if we are not directly advertising a postdoctoral hire. Applicants should email their CV, at least one of their recent publications, and a brief (2-3 sentence) overview of their research goals. Please include *PD APP*: in the subject line. Note that for postdocs, we typically do not hire unless we have 2+ years of funding available – as we always intend for these roles to be long enough for substantial research collaboration. We can also sponsor visas for postdoctoral candidates.

RESIDENTS

If you are a resident at UW looking for hosts for a research stint, please reach out. We require some experience with programming – though for residents with strong interest in our lab's themes, collaborative projects which don't need programming may be available. Please email your CV, an outline of research goals, and (if available) a recent publication. Please include *RES APP*: in the subject line.

MORE DETAILS

Below is a range of information designed to give you an idea of what the lab is like, and our policies. We will also (after a screening interview) be happy to connect you to prior lab members or affiliates if you want to know more.

Visas and immigration: As a non-US citizen, I am quite familiar with the challenges of the US immigration system. The university has a very talented immigration team that can help with issues related to acquiring and maintaining immigration status. If you are concerned about any of these issues, please bring them up with me at any point. For prospective applicants, please highlight any potential immigration concerns during the hiring process. We will not discriminate against any applicant based on nationality, but understanding potential timeline challenges early is important.

Diversity, equity, and inclusion: Science should be for everyone. Unfortunately, it isn't: there is clear and consistent evidence of systematic disadvantages in entry, survival and success in academia against women and minority groups. I grew up in a small town in rural Australia in a working-class family, and so understand some academic success barriers intimately, though there are many others I don't have any personal experience in. Our lab will strive to be **open** about privilege, **support outreach and advocacy**, and **enact diverse hiring practices**. All members and applicants will be provided equal opportunity and be evaluated on the same merits, but we will take effort to engage disadvantaged groups in outreach and support. Exactly what this looks like will change over time and will be shaped by all lab members.

Mentoring: Running a lab is first and foremost about mentoring and education. I earnestly believe that training the next generation of scientists is more important than the science itself (though they aren't opposed!). I will always strive to be a supportive and adaptive mentor. I want all members of the lab to come out of their time as better scientists and better humans. Some things you can expect from me:

- When you join the lab we will discuss and set long-term goals and appropriate milestones.
- We will meet every 1-2 weeks (or more/less frequently as needed over time) to discuss projects.
- Every 6 months (for long-term roles) we will evaluate your progress in context of your long-term goals, and reprioritize tasks to realign.
- I will encourage and assist you in building a diverse mentorship network.
- As your experience grows I will allow you more control in shaping a project's direction.
- I will encourage and support you in projects that I am not involved in – provided they do not interfere with your primary duties.

Work/life balance: How many hours do lab members have to work? There is no single right answer. Your goals, priorities, other commitments, and external life will all regularly shift what feels right. The joy and curse of research is that the work is effectively infinite, and major milestones (publications, awards, etc.) are often months apart. Throughout my PhD and postdoc I averaged a ~40hr work week, but this hides a lot of variance between weeks and months.

Short version: Full time lab members are expected to work a ~40hr work week. But I am comfortable with this being a long-term average. Specifics:

- **Be flexible.** There will be periods of heavy work and periods of light work – balance your own ledger honestly over the long term.
- **Work smarter.** Output matters more than input – so focus on planning an execution to maximize your output.
- **Work is diverse.** Work is everything that you need to do for the job – reading papers, writing, designing figures, etc., all count as work. I trust lab members to honestly account for their time.
- **Rest and relax.** Work hard during the week, but take your weekends, evenings, vacation, etc. Work-life balance is important and is a learned skill. You will do your best science when you are happy, healthy, and rested.

Time off:

- Time off can be taken whenever is suitable. If taking more than 1 consecutive workday off, please let me know.
- For any significant (1+ week) leave, please let me know at least 1 month in advance.
- If your job duties have a time/place sensitive component (e.g., collecting blood samples, external collaborator meetings), any conflicting leave needs to be communicated early.
- Feel free to send emails/messages at any time point, but for non-urgent requests no lab members are required to respond outside of normal work hours.
- How much leave you accrue will differ by role, but will be included in your job offer. Public holidays are determined by the UW School of Medicine calendar.

Celebrations (birthdays, publications, etc.): We will aim to celebrate all important milestones of lab members each year. We try to celebrate publications both at initial submission, and final acceptance.

Yearly lab events (recreation, retreat, etc.): Once the lab is sufficiently large, we will aim to have multiple lab outings each year. These will aim to be family-friendly social events to promote lab social culture, such as picnics, hikes, low-key sports (bowling, mini-golf, etc.).

Being in the lab: A joy of computational research is the flexibility of remote work. However, some level of regular in-person contact is valuable. I encourage full time lab members – particularly trainees – to work a mix of in-person and remote on a weekly basis. I require that all lab members attend all whole lab meetings in person on a consistent basis (occasionally attending remotely is okay, but this should be the exception not the rule). This policy will shift as the size and composition of the lab changes, and exceptions will always be made for those with specific needs.

Office space: As with most medical schools, the DLMP is quite short on space. Currently trainees will be provided rotating hot-desk space in the DLMP main office. Given this, I encourage trainees to work

remotely for part of each week. These space constraints also apply to faculty members – I myself share office space with Associate Professor Noah Hoffman.

Computing resources: If necessary, new lab members will be provided with a new laptop, and any additional computational equipment needed for their job. Depending on length of contract, this equipment will either be provided outright or on loan. I will talk to each new hire individually to work out computational requirements. Lab members who stay for long time periods (>2yrs) may have new laptops (etc.) provided for them over time as needed.

Reference letters: I will provide reference letters for future jobs to any lab members who have been in the lab for at least 6 months (full-time) or 1 year (part-time). Providing reference letters for lab members who spent less than this amount of time can be harder, due to lower exposure, but will be done on a discretionary basis. I want to support you in your future career, and so will happily write a reference letter for any desired career path. If I feel I cannot honestly write you a sufficiently positive endorsement for it to be useful, I will let you know beforehand.

Open science: As a lab, we believe in the importance and value of open science. Before submission to a journal, all our primary manuscripts (where I am the senior author and a lab member is the first author) will be posted to an appropriate preprint server (medRxiv, etc.). We will also provide open access to any necessary code for non-standard analyses associated with the manuscript. To the degree feasible, we will also provide raw data associated with the study. Given our use of protected health information, this often isn't possible. We will seek to make as much data as is feasible accessible, instead of aiming for the minimum required.

Conference attendance: When funding allows, full time trainees in the lab will be given funding to attend an academic conference each year, provided they are the primary presenter of a corresponding research output (poster, talk, paper, etc.). Funding may be available for additional conference attendance, or attendance at conferences without research output on a discretionary basis. Decisions for funding for non-trainees and part-time lab members will be made on a case-by-case basis.

Independent projects: I believe that all lab members should have opportunity to participate in scientific collaborations without my involvement. As a PhD student and postdoc, I regularly published manuscripts that did not include my PI as a co-author, when they resulted from truly independent work. If you undertake work that is truly separate from the lab's research themes and does not require lab resources (beyond use of a lab computer, etc.) you are free to publish this independently of me. However, such work cannot come at the expense of your lab duties and hours. If you are full-time in the lab, I ask that you make me aware of any such projects early, so that we can manage expectations.

Publications: During initial conception of a project, we will outline a general path to publication. This will include a robust discussion and critique of the potential impact of the project. If everything goes right, do we expect this study to 1) significantly improve our understanding of the human body; 2) provide a robust tool for handling a challenging technical challenge, or 3) improve a meaningful aspect of human health or clinical practice? If the answer to one of those isn't yes, we should not do the study – if our absolute best-case scenario (which likely won't happen) isn't high-impact, it's not worth doing.

We aim to publish work that is high-quality and reproducible. This doesn't mean we aim exclusively for high-impact journals, but that the primary focus is the quality of the work, for which journal impact factor is a poor proxy. I have regularly published in flagship journals, but some of my highest quality and most impactful work has been published in much less renowned journals. What venues we submit to will be decided in joint conversation between myself and the primary junior author. I will always consider which venues may be most beneficial for the junior author's career (whether academic or not).

We believe in generous interpretation of the standards for authorship team inclusion. Any lab member who makes a meaningful contribution to a study and can claim ownership and responsibility for a piece of the study will be included in the authorship team if they wish. Author ordering decisions will be made in joint discussion between myself and the first author, though I will retain the right to final decision. For senior members interested in future faculty positions, I will try to create opportunities for senior and corresponding authorship positions on papers – though these will require significant supervisory input.

First author position is typically given to the lab member who has the largest ownership of the project. If ownership is meaningfully shared between multiple members, then co-first authorship will be used. If you leave the lab before a project is completed, you will be given opportunity to retain first authorship, if necessary work for completion (including handling manuscript revisions, etc.) can be undertaken while in your new role (e.g., if staying in academia, or in an industry research role). If not, first authorship (or co-authorship) may be given to whichever lab member is able to take the project through to final publication. These situations are always unique, and so will be discussed between all involved members.