

Applying for graduate studies in a research lab - Things you need to know

In order to be accepted as a graduate student with research thesis at McGill University, you must not only be eligible based on academic accomplishments, but you also have to find a professor who accepts supervising you. In parallel to your application through Slate, you therefore need to reach out to professors with research programs of interest and inquire about the opportunities in their labs. Choose your preferred potential supervisors carefully. Depending on the research program, you will acquire technical and other skills that vary significantly between professors and labs, and you will become familiar with research approaches that are very distinct from one lab to the other. Keep your future career aspirations in mind when narrowing down your choice.

Reaching out

Like most of my colleagues, I receive tens of emails from graduate student applicants each month. This is on top of a high volume of other emails we receive daily. Therefore, if you do not receive a reply, it is not because we ignore you, it is because we are overwhelmed. A follow-up inquiry two or three weeks after your first mail is sensible but beyond that, it may not be worth your while. If the professor has not replied, they probably do not take students at the moment and simply cannot answer every inquiry.

When you inquire about the possibilities of joining a lab as a graduate student or postdoctoral fellow, you may wish to consider the following:

- Professors spot if an introductory mail is generic (not tailored to our lab) and/or copy-pasted. We are also getting good at detecting text written by ChatGPT. So do not ruin your chances by using AI-generated text in your motivation letter (see next page for details).
- In North America, the most appropriate form of address is 'Dear Professor X' or 'Dear Dr. Y' using the last name or family name. In my case you would use Professor Geitmann.
- In the North American context, it is not ideal to address the email just with 'Dear Professor'. To North American eyes omitting the name appears generic (although it may be meant to express the highest respect). Crucially, never start the email with 'Dear Sir/Madam'. If you don't know my gender, you clearly don't know enough about me or my research to submit a serious application, and consequently you are unlikely to receive a reply at all.

Attachments

An initial email should comprise the following elements that allow me to assess your dossier:

- Motivation letter (see next page for details)
- CV with detailed list of technical skills and 1-paragraph summaries of previous research experience(s)
- If available: One or two relevant published papers or manuscripts in preparation. Only send papers for which you have done most of the experimentation and writing
- Transcripts (informal is fine)
- Reference letters or list of references with contact information

Cover email

Your cover email is ideally short - one paragraph. While it should capture my attention, it should not contain in-depth information which should instead be included in a detailed attached 'Motivation letter'. On the other hand, a one-liner asking whether I take students at the moment is not enough either. The cover email should mention:

- What level of position you are interested in (MSc, PhD, postdoc, graduate internship)
- Where and when you graduated last or where you study currently

- A couple of sentences about your training, lab skills and research interests
- A sentence or two that motivate why you reach out to me in particular
- For further details, refer to the Motivation letter that you include as attachment

Motivation letter

The most important message in the motivation letter is the reason why you are approaching me. From the letter it must become clear that you specifically want to work in my lab, that you have skills that are relevant for my research program, that you have a concrete idea of what other skills you would like to acquire, and that you would make a great contribution to my team. Therefore:

- Tell me why you want to do basic research, investigate cellular processes in plants, and use microscopy or engineering methods to do so.
- If your prior training does not obviously relate to my research, provide a very clear motivation why you want to change field or discipline. If you are trained in plant breeding or plant pathology, explain clearly why you want to switch from applied to basic research and spend several years investigating the mechanics of growing plant cells and tissues.
- Do not just copy keywords from my web site or publications. Instead, demonstrate that you truly understand what my research is about. Read several of my original research papers before writing the letter (key papers include: Sleboda et al, Current Biology, 2023; Reimann et al, Plant Physiology, 2020; Altartouri et al, Plant Physiology, 2019; Bidhendi et al, Cell Reports, 2019 - you find links to these papers here: <https://www.plantbiomechanics.net/publications-complete>).
- Tell me about your prior research or lab experience. PhD applicants should summarize their MSc thesis and highlight the major outcomes. Postdoctoral applicants should summarize the main highlights of their PhD thesis and other relevant research experience. Provide details on your technical and bench skills. Be specific: e.g., if you have used electron microscopy in your research, specify whether your work consisted in providing samples to a microscope technician or whether you learned how to operate the instrument yourself.
- Applicants for postdoctoral positions must include a rough outline for a research project to be carried out in my lab. Also explain what your strategy will be to obtain a fellowship.
- Tell me about your career aspirations. Why do you want to embark on graduate studies or a postdoctoral research project?
- Tell me why I should consider you over hundreds of other applicants. Why will you make a great addition to my team? This is not necessarily purely academic. Other talents might be relevant, ranging from leadership skills to traits that make for a great team environment, such as playing a musical instrument, leading lab outings or organizing potluck dinners. In fact, to demonstrate that you read this document before sending me your application, mention the dish that you would bring to the first lab potluck!

Use of Generative AI

The following are my rules for the use of Generative AI (e.g., ChatGPT) in the preparation of your application material.

- GenAI is fine to use for polishing your CV
- AI-based search for relevant literature is acceptable
- **GenAI must not be used for drafting and writing your motivation letter.** The content of your letter must be structured and crafted by yourself, and I want to read your original voice, **unpolished by an AI system.**
- All use of GenAI in other elements of your application material must be disclosed with detail of how it was used.

Disclaimer

Other professors and other institutions may handle graduate student applicants differently. The advice given here pertains specifically to my lab.

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