

## SUGGESTIONS FOR APPLYING FOR A MASTER'S OR PHD DEGREE

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There is an old joke that if you can't decide what to do in your life, then you should do a graduate degree – a master's or PhD. While there may be an element of truth to this joke, there are many reasons why you might want a graduate degree, including:

- Personal satisfaction and knowledge expansion
- An opportunity to build professional skills and make new discoveries while completing original research
- As a requirement for certain careers

The questions then arise: How do you apply for graduate studies? What options do you have?

### WHERE TO FIND OUT ABOUT GRADUATE OPPORTUNITIES

Of course, the Web provides one-stop shopping for graduate opportunities, but if you want a personal touch, perhaps the best place to start investigating options for graduate studies is at your undergraduate university. Most academics at your institution have completed a graduate degree and are a potential source of guidance – they may even be looking for new graduate students. If they don't already have projects that you might want to pursue or if you plan to undertake graduate studies elsewhere, they can potentially recommend colleagues who might be looking for students. Another port of call is the departmental administrator or university officer who deals with graduate student admissions. They can provide advice on the processes involved in applying to graduate school at the university and/or elsewhere. Also, graduate students in your department are a great source of information because they have recently gone through this process themselves. Many universities and conferences organize events where institutions present themselves. These events are great opportunities to get information about different degrees and application processes as well as to talk to students who live somewhere else.

Some students continue their graduate studies at their undergraduate institution, which can be beneficial in terms of logistics and life style. However, many students see an advantage to changing their academic environment and geographic setting in order to learn more and expand their professional networks. In the end, the choice of whether you should stay or move comes down to personal preference and circumstances.

### FINDING A SUPERVISOR, TOPIC AND UNIVERSITY

A graduate degree is a big deal, and so you will want to find a supervisor with whom you communicate well and a research topic that you enjoy. A supervisor with similar research interests to yours will ensure that you are both on the same page at the beginning of your degree. Some people say that your relationship with your supervisor is one of the most important in your life. If things go well, your supervisor will promote your research, provide sufficient funding and support and help lay the foundation for a fulfilling career. If things don't work out, then the path may be unexpectedly bumpy, but remember that a range of different outcomes may result and eventually you will discover new options.

You can find potential supervisors and projects on most university websites or in professional organizations' publications, websites and e-mail lists. Once you have found some potential supervisors, you would be well advised to read some of the publications from their group to

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Field trip to examine ignimbrites and lacustrine sediments at Scafell Pike in the Lake District (England). PHOTO COURTESY OF L. R. PURE

figure out if their research will motivate you through your degree. Pay close attention to whether the research topics are compelling and seem tractable. Check out what the students in the group are doing and whether you are inspired by their work.

Once you have identified a supervisor, send a succinct e-mail. Be sure to highlight any previous research experience, and show that you are genuinely interested in this particular supervisor and their specific research interests. You may want to include a few comments about your achievements (e.g. an A+ average and research experience) and attach your curriculum vitae (CV) and unofficial transcript. Some people won't open attachments, and so it is a good idea to put your CV below the e-mail message as well as attaching a pdf. If someone recommends that you contact the potential supervisor, include their name in your e-mail once you have obtained permission to do so.

What if you get no reply after two weeks? Resend the e-mail with a different subject line. The most likely scenario is that your e-mail has scrolled off the potential supervisor's screen before they had an opportunity to reply. What if you still don't get a reply? You can send a third message or write to the graduate administrator indicating an interest in working with the potential supervisor. Remember, if the potential supervisor doesn't answer your message it does not necessarily indicate how they view you. There are many possible reasons why the supervisor does not answer. Supervisors can be busy, lack funding for graduate students, are travelling or doing remote field work. Or, your message went into their junk mail.

If the potential supervisor expresses interest, try to either meet in person (for example, at their university or at a conference) or set up an Internet meeting. Find out whether the university pays for visits by top applicants or accepted students. Such a visit gives you a chance to talk not only to the potential supervisor but also to current graduate students about how they like the university, supervisor and group, and you can check the location. Remember to take some students' comments with a "grain of salt" because not everyone will respond to situations or people in the same way as you. During your visit, pay attention to the opportunities that the university provides – you are responsible for evaluating if the potential program of study is the right fit for you. Are there field trips for graduate students? Are classes offered? Are the appropriate resources easy to access (lab, library, etc.)? Does the department seem to run well? What is the research ranking of the university? Does the potential supervisor have many students and what is the track record of their graduates? What are the supervisor's expectations regarding their students? Does the university offer professional development opportunities (e.g. grant writing, communication skills and teaching opportunities)?

### DECIDING ON A MASTER'S VERSUS A PHD DEGREE

A PhD is viewed by many as a research degree and a master's as a smaller research project that prepares you for a range of jobs. Some people believe that doing a PhD will make you "overqualified" for jobs outside academia. The question to ask here is: would you want to work for a boss who does not value your PhD? However, if you are uncertain, start with a master's degree because if you dislike graduate work it is easy to leave quickly. It is much harder to start a PhD and then switch to a master's because the term used to describe this move is a "down-grade." Although, if completing a master's gets you to a place you'd like to be, it is not a "down-grade" but a smart move!



IMAGE FROM ANUNNEWS.NET

In mainland Europe and some North American universities, a master's degree is required before moving on to a PhD. The time involved in doing two degrees may seem daunting, but remember that you will be more qualified in the end. In other countries a year-long honours degree is open to only the top students and represents a "mini-master's" that provides direct entry into a PhD.

### WHAT DOES AN APPLICATION REQUIRE?

Application guidelines vary between universities and countries and so it is important to check them carefully. Pay particular attention to whether you should submit the application to the university or the department. If you are an international student, there may be extra requirements, such as financial statements indicating that your family has sufficient funds to support you. The following list is not exhaustive but includes some of the common application requirements.

#### 1. Minimum Requirements

- An undergraduate degree with appropriate grades
- Some universities require two semesters of calculus, chemistry, physics, and a field camp.

#### 2. Information about You and a Statement of Purpose

- Provide a résumé or CV showing relevant qualifications.
- Academic transcripts must be submitted for each university or college attended.
- Write a letter or statement that indicates:
  - the type of research that you would like to pursue
  - the name(s) of potential supervisor(s)
  - your background information and research experience
  - why you have chosen this particular university and advisor
  - your academic and professional goals

#### 3. Letters of Recommendation – Generally Two to Four

- Letters from individuals who know you professionally (as a student and/or in the workplace). Note, the potential supervisor generally writes a separate letter.

#### 4. Test Results

Each university will have its own requirements for test results, and these may include:

- Graduate Record Examinations (GRE) General Test scores ([www.ets.org/gre](http://www.ets.org/gre)) for many North American universities.
- Results from the Test of English as a Foreign Language test (TOEFL, [www.ets.org/toefl](http://www.ets.org/toefl)) for students who have not attended an institution with English-language classes. Some universities require recent TOEFL scores, e.g. within the last 2 years.

#### 5. Non-refundable Application Fee

Each university has its own application fees.

### TIMELINE FOR AN APPLICATION

For graduate degrees in most countries, consider contacting potential supervisors as early as a year before you wish to commence your graduate degree because there is a lot to arrange (TABLE 1). If you submit an application late, you may not be considered for financial aid or you may need to delay your start date. The exception is mainland Europe, where many PhD positions are advertised through the supervisors or larger research programs and PhD students are employed by the supervisors on a salary rather than a scholarship. For such positions in Europe the timeline in TABLE 1 does not apply.

Some universities require you to submit your application online with recommendation letters included. Other universities request recommendation letters after they have received all your information. In either case, your application package is not complete until all parts, including recommendation letters, are submitted; therefore, it is important to give your recommenders plenty of time to write a letter.

**TABLE 1** APPROXIMATE TIMING FOR GRADUATE DEGREE APPLICATIONS FOR THE START OF THE UNIVERSITY CALENDAR YEAR.

Task		Months before enrollment
1.	Research potential advisors and topics	10–12
2.	Talk to potential advisors. Arrange a visit or Internet contact.	6–12
3.	GRE (N. America) and TOEFL	12
4.	Provide a finalized application to individuals writing your recommendation letters	8
5.	Application deadlines	4–7
6.	Announcement of acceptance of application	2–5

### FINANCIAL SUPPORT

It is important to make sure that you will be adequately supported throughout your degree. Make sure that you know the answers to the following questions:

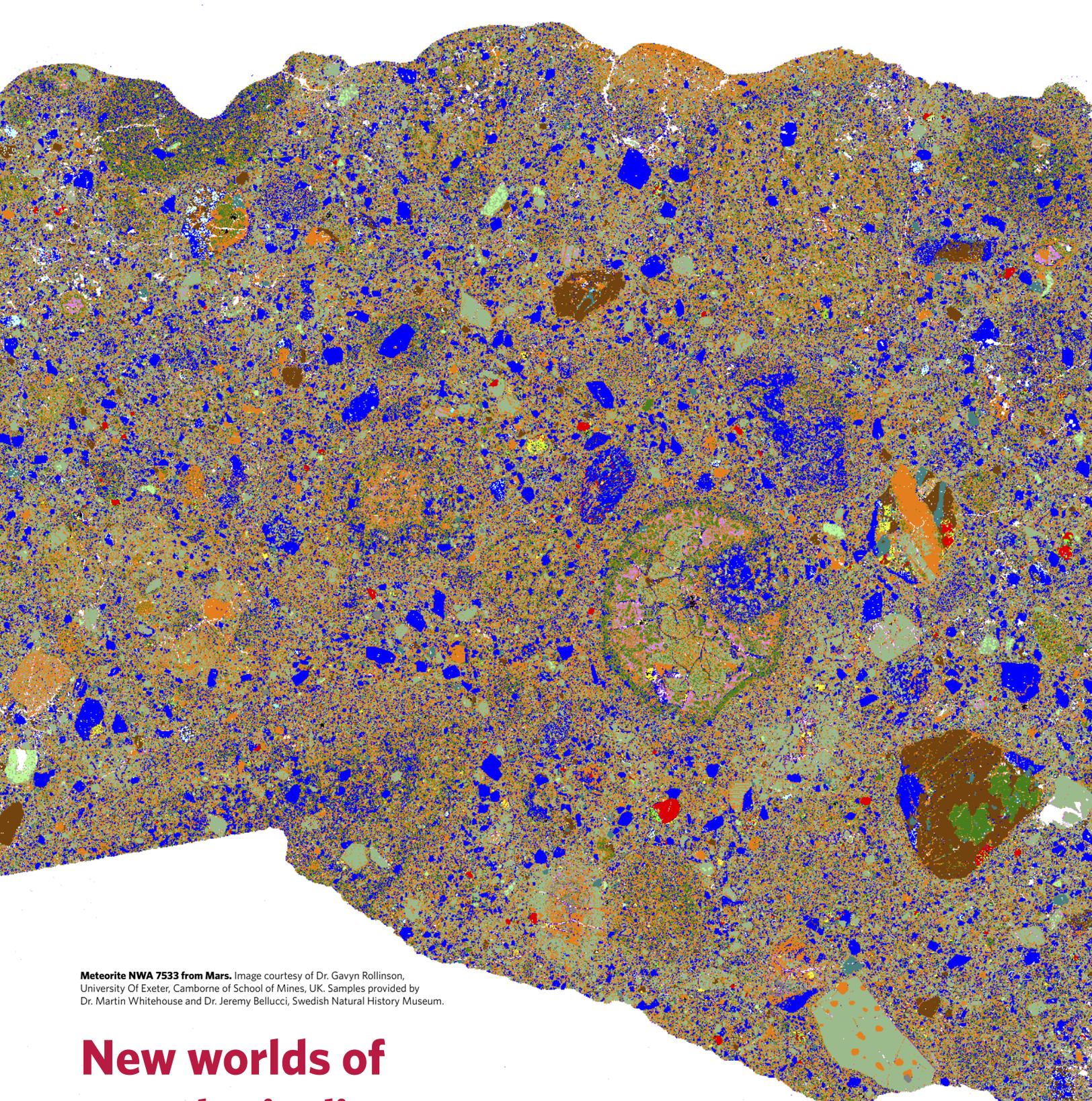
<b>Income</b>	<ul style="list-style-type: none"> <li>■ How much funding is supplied?</li> <li>■ Is funding based on working as a teaching assistant? Are research assistantships available?</li> <li>■ Is funding available in the summer or only during the academic year?</li> <li>■ Are any scholarships provided? If so, do they continue for your entire degree or just a set time?</li> </ul>
<b>Expenses</b>	<ul style="list-style-type: none"> <li>■ What is the cost of living?</li> <li>■ How much does tuition cost and does it differ for residents versus non-residents?</li> <li>■ Are there university service fees in addition to tuition?</li> <li>■ Are health care benefits extra or included?</li> </ul>
<b>Research costs</b>	<ul style="list-style-type: none"> <li>■ Will you receive a computer or need to buy one yourself?</li> <li>■ How is access to field and laboratory facilities arranged and paid for?</li> <li>■ How will you be supported for travel to scientific meetings?</li> <li>■ Are you expected to pay for binding your thesis?</li> <li>■ Are there limits on whether you can work outside the university?</li> </ul>
<b>International students</b>	<ul style="list-style-type: none"> <li>■ Is your visa covered?</li> <li>■ Are travel expenses covered? Plane flight?</li> </ul>

### FINAL WORDS

You will likely receive a lot of advice, and often it will be conflicting. What is most important is that you do something that you really like; the rest will fall into place. What is best for you may well be different from what is best for other people. Finally, don't give up! There are many opportunities out there; so if your first preference falls through, just keep trying. Good luck!

### ADDITIONAL RESOURCES

Canadian Association of Graduate Studies, [http://www.cags.ca/documents/publications/best\\_practices/CAGSHandbook05.pdf](http://www.cags.ca/documents/publications/best_practices/CAGSHandbook05.pdf)



**Meteorite NWA 7533 from Mars.** Image courtesy of Dr. Gavyn Rollinson, University Of Exeter, Camborne School of Mines, UK. Samples provided by Dr. Martin Whitehouse and Dr. Jeremy Bellucci, Swedish Natural History Museum.

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