



TopUniversities.com

$$x = -\frac{2}{3} - \frac{5}{2} + \frac{1}{2} + \frac{13}{3}$$

$$\frac{15-10}{3} x = \frac{-4-15+}{6}$$

$$x - x + \frac{2}{3}x = -\frac{1}{3} + \frac{1}{8} + \frac{1}{2} - \frac{35}{24}$$

$$\frac{-6-3+2}{3} x =$$

$$x = +\frac{428}{224} - \frac{3}{8} \rightarrow x = \frac{1}{2}$$

$$3x^2 - 5x - 4$$

$$x - 15 \left(4 - \frac{x}{2} \right)$$

$$x^2 - 2x^2 + 2x - 3$$

$$5x^2$$

$$-6 \left(+1 - 2x + 2 - 5x + \frac{3}{2}x - \left| -\frac{1}{8} \right| \right)$$

$$= \frac{1}{2} m v_p^2 \approx \frac{1}{2} \cdot 83,6 \cdot 8000^2 \approx 2,68 \cdot 10^9 \text{ J}$$

$$y = \frac{2y - \sqrt{x^2 - 3}}{3\sqrt{4-x^2-2x} + x}$$

$$2x - 5y = 8$$

$$x = 3y - 4$$

$$3(3y - 4) - 5y = 8$$

$$9y - 12 - 5y = 8$$

$$4y = 20$$

$$y = 5$$

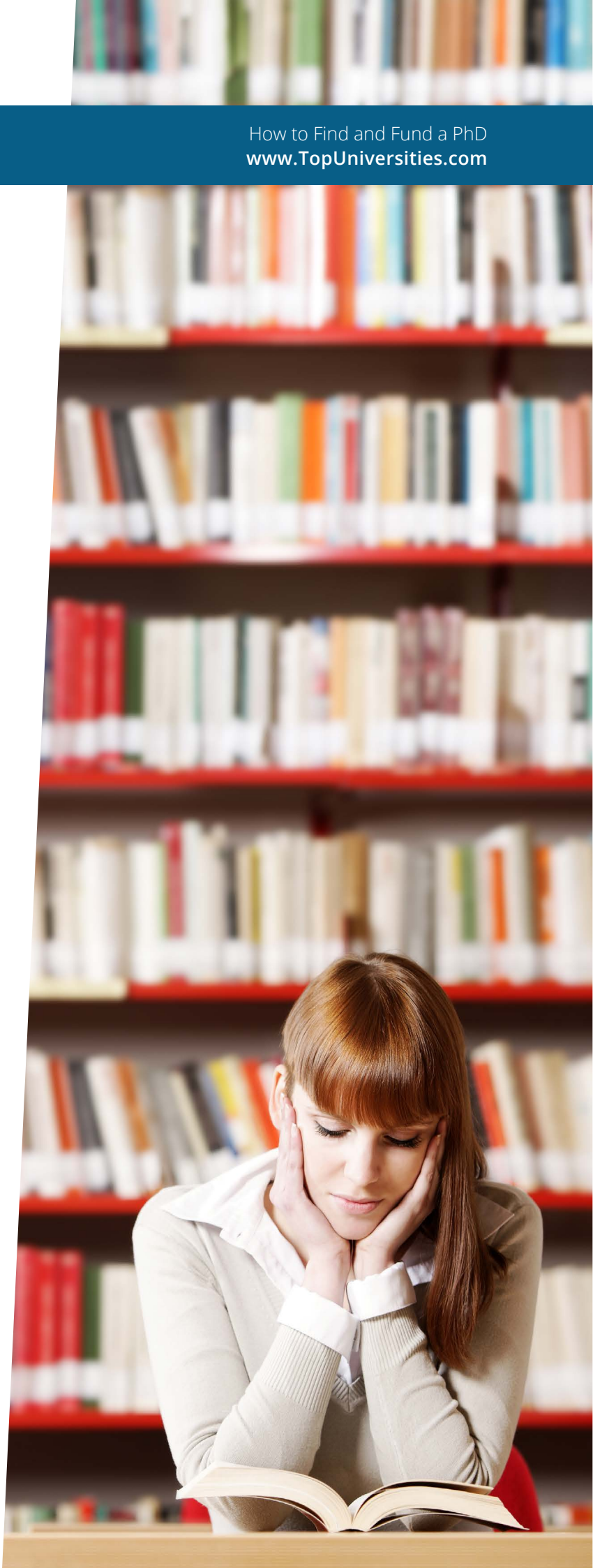
$$x = 15 - 4$$



Contents

How to Find and Fund a PhD
www.TopUniversities.com

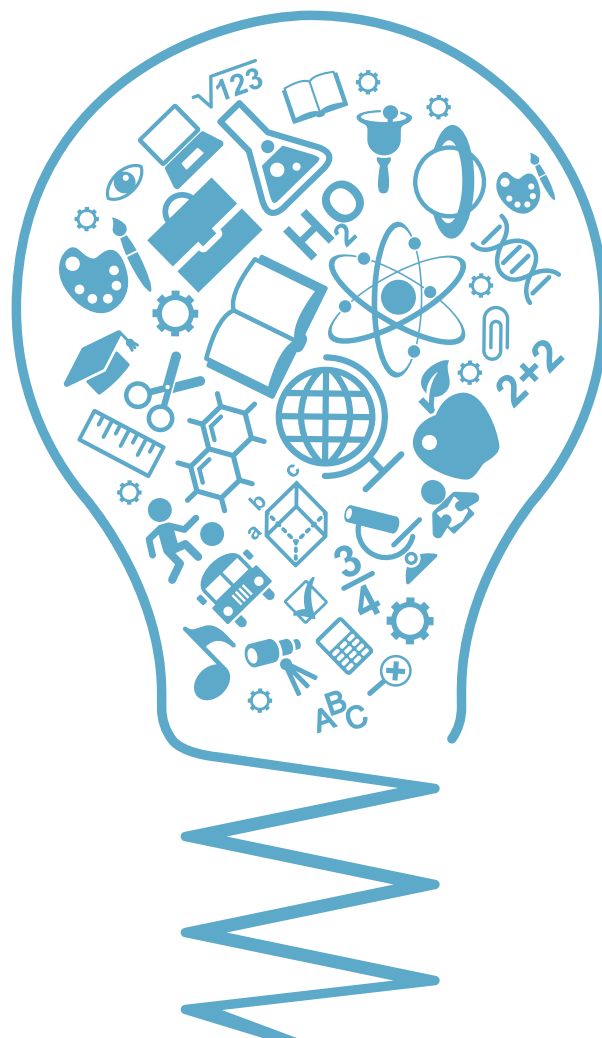
- 03** What is a PhD?
- 04** Types of PhD
- 05** How to apply for PhDs
- 07** Fees & funding
- 09** Destinations for low-cost PhD study
- 11** What next?





What is a PhD?

A Doctorate of Philosophy (PhD, sometimes abbreviated as DPhil) is the highest level of postgraduate study and usually follows a master's degree and a bachelor. PhDs typically involve at least three years of independent study, supported by regular contact with a supervisor, and concluding with the submission of an extensive piece of original research. Most universities require PhD students to present and defend their thesis to a small panel of experts during a final oral examination called a viva voce, generally referred to as a 'viva'.



Types of PhD

Depending on your field and preferences, you may wish to opt for a traditional PhD, joint PhD, or a professional doctorate.

Unlike professional doctorates, which tend to follow a clearer structure and adopt a practical focus, traditional PhDs are built around independent research and feature very little class time. PhD students are assigned a supervisor with whom they liaise and meet regularly, aiming to submit their thesis within three to four years in the UK and six years in the US if studying full-time.

PhD students are assigned a supervisor with whom they liaise and meet regularly, aiming to submit their thesis within three to four years in the UK and six years in the US if studying full-time.

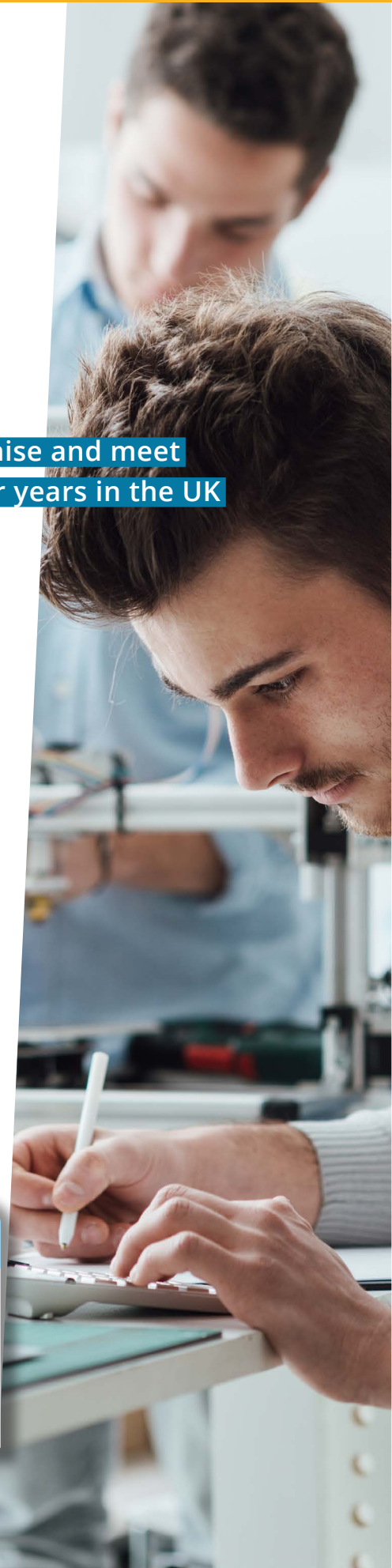
Joint PhDs are completed simultaneously at two different institutions and require you to be admitted to and assessed by both universities. Depending on the joint PhD, you may receive a single degree jointly awarded by the two universities, or two separate PhD degrees from each. Joint PhDs can be particularly challenging and certainly require resilience and mobility, but they can also widen your network and enable you to experience a wider range of approaches to the subject, and opportunities to discuss your research with experts at each institution.

Professional doctorates take up to five years, and involve making a contribution to both theory and practice within your field, with a focus on professional applications. Professional doctorates are essentially PhDs geared towards real-life issues in the workplace or industry. They often have a strong taught component and are generally more appropriate for those who wish to pursue a professional rather than an academic career. Professional doctorates can often be completed part-time alongside employment.



Part-time PhD study

You have the option to undertake your PhD part-time if you have other full-time commitments. However, note that part time PhDs may take up to eight years in the US and six in the UK, and often have higher drop-out rates. Make sure this option is right for you!



How to apply for PhDs

When you're researching academic institutions, make sure to identify professors whose research interests overlap with yours. Once you have devised a final list of PhD programs you wish to apply to, consult the application guidelines provided. This is likely to vary depending on the subject, country, institution and type of PhD, but you should expect to be asked for the following documents:

When you're researching academic institutions, make sure to identify professors whose research interests overlap with yours. Once you have devised a final list of PhD programs you wish to apply to, consult the application guidelines provided.

Research proposal

Most PhDs require that you submit a formal research proposal as part of your application. This should formulate a clear PhD project in a coherent, structured way. Different countries and universities will ask varying levels of detail from your proposal, but as a rule of thumb you should aim to write no more than 2,000 words proposing a working title, explaining about what you aim to achieve and why, providing some background information on the area you hope to investigate, and delineating an action plan/strategy outlining your research methods and material. Please note that while no research proposal is absolutely set in stone, you will be more or less working on the topic outlined in your proposal.

Personal statement

Carefully draft your personal statement, also known as your statement of purpose. While it is true that some admissions committees expect personal statements to be creative and evocative of the applicant's personality and past experiences, it's important to stay on topic. Your personal statement should: summarize your research proposal; explain why you are qualified to undertake this research; explain why the university is the best place to undertake your project; and list any resources you wish to have access to, such as a special library collection, lab or academic whose interests collide with yours. Proofread your statement as many times as you humanly can, enlisting the help of your friends and professors. Your statement needs to be absolutely perfect, especially if you are applying for scholarships.

Letters of recommendation

Request letters of recommendation several months before the application deadline(s) to give your professors enough time to write you a glowing reference. Most professors will be happy to help and will agree to be your referees, but you should choose carefully – only approach those who know your work, have a favorable impression of you, and will feel comfortable recommending you. A generic lukewarm reference could be damaging (possibly more so than a weak standardized test score). Take time to carefully explain your proposed PhD project to these handpicked referees, outlining your reasons for selecting each university and your personal/professional motivations for completing this specific PhD. If they accept, thank them profusely both before and after they have submitted their letters.

Test scores

You may be asked to submit language test scores if you're not studying in your native language, and there are a number of other standardized tests you may be required to take as part of your application. Most US and Canadian schools, for instance, will ask that you submit your **Graduate Record Examination (GRE)** scores. Depending on the university, you may have to sit either the **GRE® General Test** or the **GRE® Subject Test** in your field. It would be worth studying for a few months to make sure your scores don't undermine your application. There are many official and non-official textbooks to guide you, but they tend to be expensive – though second-hand editions with test-specific study tips and past papers should be available to buy online. Remember: standardized tests tend to follow a certain format; take time to understand how the test works and what it requires.



Fees & funding

PhD fees vary greatly by country. Completing a PhD in the US could set you back from US\$28,000 to US\$40,000 for each year that you are enrolled. At the other end of the spectrum, in Germany, PhD tuition fees are quasi non-existent, save for a semester registration fee of approximately €200 (US\$220). Somewhere in the middle, UK PhDs usually cost between £3,000 and £6,000 per year (around US\$4,300-8,700).

You'll often be able to take on work as a research or teaching assistant, in order to earn a small salary alongside your PhD studies, and in some countries it's the norm for PhD students to be employed full-time as members of the academic faculty.

If self-funding is not an option, you should explore sources of PhD funding available in your country and offered by the institution. You'll often be able to take on work as a research or teaching assistant, in order to earn a small salary alongside your PhD studies, and in some countries it's the norm for PhD students to be employed full-time as members of the academic faculty. In other instances, you'll need to seek funding from national research bodies, ministries of education, private research organizations, and relevant charities. There may also be scholarships available for specific demographics and/or interest groups.

Below is an overview of PhD grants and scholarships available in the US, UK and Canada.

US

PhD students in the US are discouraged from seeking any further employment outside of their studies. In some cases, they are offered full tuition waivers and a stipend, depending on the department's budget. Many universities in the US offer **research assistantships**, which include a stipend and a full or part waiver of tuition fees in exchange for a number of teaching hours each week.

The **Fulbright Program** run by the US Bureau of Educational and Cultural Affairs offers a number of study and research grants for US and non-US students, to study outside or within the US respectively. The grants typically cover a monthly stipend, health coverage, airfare



and tuition fees. To apply, have a look at the funding opportunities [listed here by country](#). Other government agencies offering grants include the [National Science Foundation](#) and the [National Institute of Health](#).

UK

Research councils in the UK that could help you fund your PhD include the [Arts and Humanities Research Council](#), [Biotechnology and Biological Sciences Research Council](#), [Engineering and Physical Sciences Research Council](#), [Economic and Social Science Research Council](#), [Medical Research Council](#), [Natural Environment Research Council](#) and the [Science and Technology Facilities Council](#).

Governmental and European research councils often fund PhD projects. For instance, the [European Social Fund](#) offers tax-free bursaries to deserving students, covering their fees as well as a yearly stipend of about £13,000 (US\$21,700).

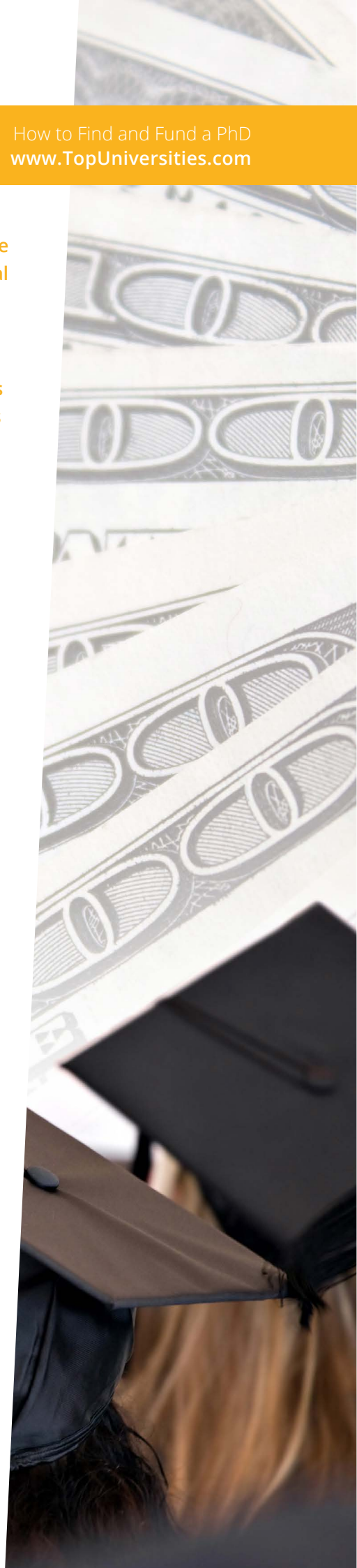
Alternatively, you could also take out a career development loan (or CDL) to help cover your fees and living costs. A CDL will let you borrow any amount from £300 (~US\$500) to £10,000 (~US\$16,700), which you must begin repaying from one month after you finish your course, whether or not you graduate, at a fixed interest rate.

Canada

The Canadian government runs a useful [website](#) which lists all available scholarships along with their basic requirements. This includes the [Vanier Canada Graduate Scholarships](#), which award CA\$50,000 per year (US\$38,600) to deserving Canadian and international PhD students involved in the fields of health, natural sciences, engineering, social sciences or humanities.

There are also a number of university-specific graduate scholarships awarded to deserving international students, such as:

- [Carleton University Awards for International Students](#)
- [Fairleigh Dickinson Scholarships for International Students](#)
- [University of Manitoba Graduate Fellowships](#)
- [University of Toronto Ontario Graduate Scholarship](#)
- [University of Waterloo International Funding](#)



Destinations for low-cost PhD study

Of course, if you would rather spare yourself the financial burden of hefty PhD tuition fees (and the trouble of applying to dozens of scholarships, grants and loans), there are a number of countries where tuition is both free and world-leading. As many students now choose to do, you could opt to pursue your studies free of charge, or relatively inexpensively, in Germany, France, Denmark, Finland or Sweden at world-class establishments.

As many students now choose to do, you could opt to pursue your studies free of charge, or relatively inexpensively, in Germany, France, Denmark, Finland or Sweden at world-class establishments.

Germany

Germany is well known for its strong academic standards, high standards of living and free tuition (regardless of nationality)! As many as 43 German universities, in fact, feature among the global top 650 in the **QS World University Rankings®** 2015/16, including **Technische Universität München** (60th), **Ruprecht-Karls-Universität Heidelberg** (66th) and **Ludwig-Maximilians-Universität München** (75th). German cities featured in the **QS Best Student Cities** include Berlin, home to the currywurst museum and fleet of uber-cool algorithm startups, and Munich, famous for the jolly beer festival, Oktoberfest, it hosts every year.

France

With 11 universities among the global top 250 in the QS World University Rankings, including **l'Ecole Normale Supérieure de Paris** (ranked 20th in the world) and **l'Ecole Polytechnique** (40th), France offers low tuition fees at its public universities. Although the fee may be higher in a Grande École, public universities in France will charge a nominal fee of approximately €400 (US\$440) a year. Top student cities in France include Lyon, Toulouse and of course Paris – which tops the QS Best Student Cities index thanks to its low tuition fees and high concentration of internationally recognized universities.

Denmark

Danish universities will charge a yearly registration fee of approximately DKK 3600 (US\$500) for PhDs and tend to favor a holistic model of higher education. Ranked 27th in the QS Best Student Cities 2016, capital city



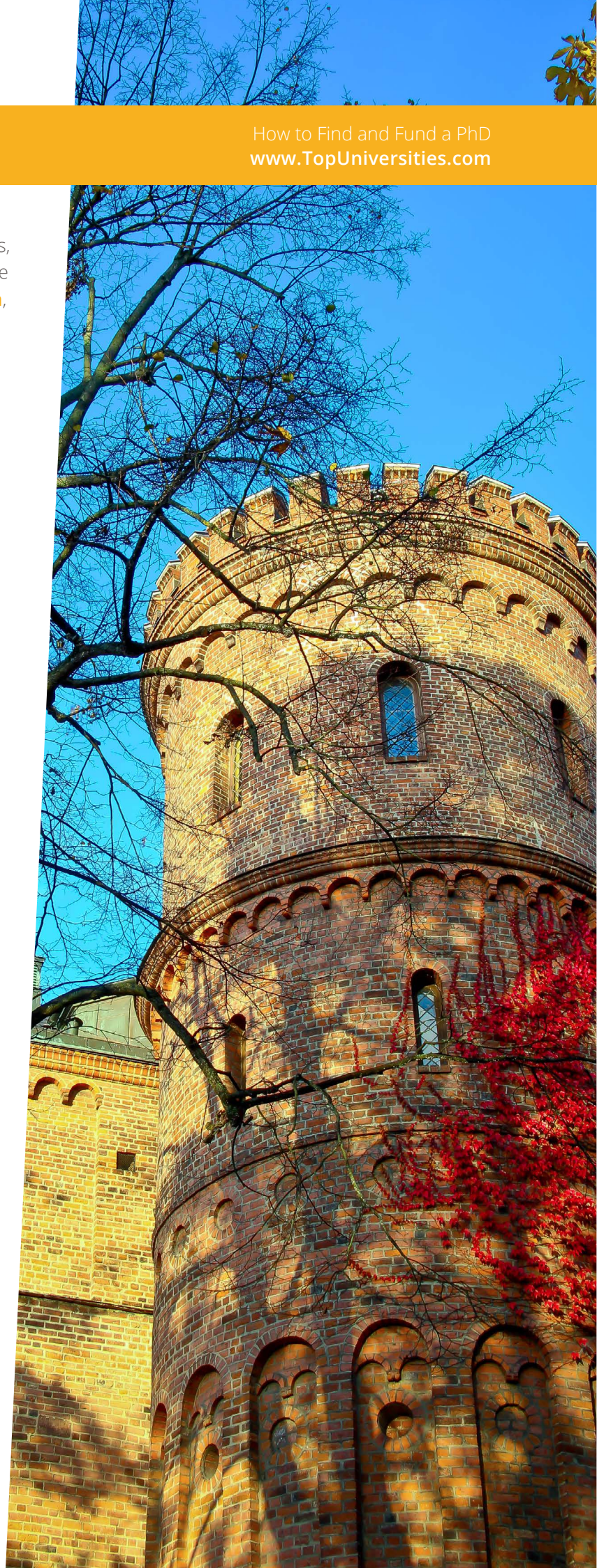
Copenhagen is known for its progressive politics, low levels of pollution and vibrant arts and culture scene, as well as the **University of Copenhagen**, ranked 69th in the QS World University Rankings.

Finland

Ranked 34th in the QS Best Student Cities 2016, Finnish capital Helsinki is home to two of the world's top 150 universities, the **University of Helsinki** and **Aalto University**, and has been recorded as the most affordable Nordic capital in the Mercer Cost of Living Survey. Also noteworthy are Finland's wide open spaces (if you're into that kind of thing) and incredible natural phenomena such as the eerie midnight sun and the gorgeous Aurora Borealis, which fires up the Finnish night sky about 10 to 20 nights a year.

Sweden

The EU country with the highest percentage of renewable energy, Sweden has no less than 29 gorgeous national parks and 4,000 nature reserves. The progressive politics for which it is known are also reflected in its higher education system. Tuition is free for all students at doctoral level in Sweden, and there are quite a few **scholarships** available to cover living costs, via the Swedish Institute, for instance, or individual universities. Eight Swedish universities feature in the global top 320 in the QS World University Rankings, including **Lund University**, ranked 70th in the world, and **KTH Royal Institute of Technology**, 92nd.



What next?

Depending on your field, you may wish to do a number of very different things after completing your PhD. It is very possible that you may decide to take your skills and expertise to the private sector, taking on a research-based role in a relevant industry. Alternatively, you could stay within academia, moving between universities and working your way up into increasingly senior research positions.

Depending on your sector and specialization, your PhD could significantly increase your earning potential. According to the Salary Survey Winter 2016 published by the US's National Association of Colleges and Employers (NACE), PhD graduates in computer science earn on average US\$40,000 more than graduates with a bachelor's degree in the same field.

To kick-start your career post-PhD, talk to your supervisor and other faculty members, as well as making use of the university's careers services and alumni network. Start your job hunt with a good idea of the transferrable skills and expertise you have gained from PhD and the kind of organization you would like to work for. Learn to use social media to showcase your achievements, and don't be afraid to send speculative applications to companies you're interested in.



Ready to apply for a PhD?

Meet graduate schools and universities from around the world at a **QS World Grad School Tour** event in a city near you. As well as free seminars and face to face meetings, you'll also receive a complimentary copy of the QS Top Grad School Guide (for the first 100 attendees) and be eligible to apply for exclusive scholarships. See you there!