

How to apply US grad school?

0. Who am I
1. How to write application
2. General information of US grad school
3. My personal thought

This slides can be found at...

http://home.fnal.gov/~katori/mypaper/11_NuInt11/TK_GRE_BHU11.pdf

Teppei Katori
Massachusetts Institute of Technology,
Banaras Hindu University, Mar. 19, 2011

0. Who am I

Hi, my name is Teppei Katori (call me “Teppei”, don’t call me “Dr. Katori” nor “Sir”)

1998 Tokyo Institute of Technology, entered science department

2002 Tokyo Institute of Technology, graduated with B. S. (Bachelor of Science)

2002 Indiana University, entered Department of Physics

2008 Indiana University, graduated with Ph. D of Physics

2009 to now, Massachusetts Institute of Technology, postdoc associate

More...

- e-mail:katori@fnal.gov

- go google, search “Teppei Katori”, to reach my website

1. How to write application

There is no entrance exams for any US universities! there is only application for all US universities, so please write it carefully. Followings are what you need, from important one (top), to not so important one (bottom)

1. Application
2. Letter of Statement
3. Recommendations
4. Score of GRE subject-physics
5. Score of GRE general
6. Score of TOEFL
7. Others, GPA, etc

The top 50 universities in US are all similar requirements.

1-1. Application

These days, all universities use online application, very easy to submit.

e.g.) Indiana University

go google, search "Indiana university physics"

click "admissions",

click "graduate program application instruction"

In this way, you can get application page of all universities in US.

Q. What kind of universities in US?

A. I think all US universities in top 50 are all good (money, professors, programs, etc). Details depend on what you want to do. There are lots of ranking site, those are all bad but you can get some ideas from them, for example, US News is one of the most popular ranking site,

<http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-physics-schools/rankings/>

No. 1 in physics is MIT and 3 others. My school, Indiana university is No. 40 in physics, but there nuclear physics program is top 5.

There are many good universities. You should apply as much as possible. For fall entrance (September start semester), application deadline is usually December-January.

1-2. Letter of Statement

Many of you have not much to write here. Here, you should write anything to promote yourself. For example, How much you love science etc. Your working experience, internships, sports are all good things to write. Any awards, honors, are good, too. But especially, something related to physics or research is the most important to write down.

e.g.)

1. I worked in laboratory since my first year of college. I know how to program with GEANT4 etc.
2. I worked at Intel 10 years, and I have lots of experience with electronics. Now I feel I want to come back to school, etc.
3. After my high school, I took 2 years off and I traveled all India, etc.

You can write anything you can promote yourself.

Q. Can I lie?

A. Of course not! But don't hesitate to write any small things, for example you were pitcher at cricket team in your hometown, etc.

1-3. Recommendations

Usually, you need 3 recommendation letters. Important points are,

1. Ask someone who knows you. For example, professors you work with. It is important the letter describes you not too generic, but more specific (your character, your skill, etc)
2. Ask someone who knows someone at the university you want to apply. Even he or she is not the member of admission committee, if you ask by e-mail, he or she may take a look your application or tell to committee members about you.
3. Ask famous professors. Well, this is sneaky but use it if you can!

It is very important to have some connections. Many people feel comfortable to accept/hire someone you know. You should use it!

1-4. GRE subject-physics

Main page

<http://www.ets.org/gre/subject/about>

This is the only thing for you to prove you know physics. Please try to get the highest score.

Fee: \$160

Q. Where can I take?

A. You can take only 3 times in a year.

http://www.ets.org/gre/subject/register/centers_dates

There are 9 locations in India (there is a link, “Test Center List”).

Q. How many points should I get?

A. This is not explicitly written anywhere. According to my research, 840/1000 is almost the highest score and you can enter Harvard or MIT without any problems. There are many textbooks on the web, please practice a lot to get the highest score! Your competitors are other Indian students!

1-5. GRE general

Main page

<http://www.ets.org/gre/general/about>

This is a lot less important than GRE subject. You only need to get the minimum acceptable score. There are many places you can take this exam, perhaps everyday.

Fee: \$190

Q. How many points should I get?

Again, no university website mentions that explicitly. My own research says

GRE-general verbal=300/800

GRE-general quantitative=770/800

GRE-general analytical=N/A

Also, my another research says GRE-general quantitative is the only score used for the selection. Other 2 are first of all not used for the selection.

This is not important test. You best score last 5 years in your record, so once you get OK score, you should move on.

1 • 6 TOEFL

Main page

<http://www.ets.org/toefl/ibt/about>

You are expected to take very high score by this.

Fee: \$150-225

Q. How many points should I get?

The top 50 universities are all same. According to their website,

- a. internet based test (iBT)=80/120
- b. computer based test (cBT)=213/300
- c. paper based test=550/600

These are the minimum acceptable scores.

This is very high score for non-English speaking people. My highest score was 197/300 by cBT, well, it was below the minimum acceptable score but I was accepted. But my Chinese friends are all >260/300. I think Indian students are required to get high score by this exams.

1-7. Others, GPA, etc

GPA (Grade Point Average) is more important than the score of GRE subject physics for American students, but not for you. Because US grad school admission has no idea how GPA is calculated in Indian universities. Nevertheless, your official record from undergrad universities are required to submit.

There are many Indian students in US and even growing. Again, your competitors are other Indian students. So it is very important to “differentiate” yourself from other students. Your application should say how much you are awesome than other Indian students (of course, on top of very high GRE scores). You can attach anything on your application and send by mail if you want to (e.g., circuit you designed, you with your cricket uniform, etc). Any extra stuff doesn't degrade your application, but everyone hesitates to read too big application...

2-1. General information of US grad school, money

Once you are accepted, and you travel to US, the school doesn't cost at all! No tuition fee (reimbursed), and your living cost is supported. That's why everyone apply US grad school from all over the world.

e.g.) Indiana University

My case, I was paid ~\$40,000/yr as a payment of Research Assistant (RA), all 7 years. RA is not required to teach, all you need to do is your research.

\$20,000 is for tuition fee, and I actually received ~\$2,000/month. Tax is ~\$300, rent is ~\$500, utilities are at most ~\$400, and rest at food and drink and fun.

If you don't have your adviser (not many people has adviser from the first year), you can work as Teaching assistant (TA). The payment is usually same as RA. Anyway, you will be paid by someone, somehow, because this is the responsibility for the department to pay all grad students.

All these stories are for science, engineer major students. If you want to study, say, law or business or art, you may have trouble with getting money.

2-2. General information of US grad school, Qualifying exam

Although there is not entrance exams, there is something called qualifying exams. It depends on which universities, but usually 30-50% people fail. Usually people can take only few times (For example, Indiana University, you can take only 3 times), so if you fail many times, you must leave the school. Then those people take master degree before leaving the school. Indeed, there is no master course in general in US (but PhD course is longer).

After passing qualifying exams, usually there is oral exams about your research (not so many people fail this). After passing this, you finally become “PhD candidate”. From here is more likely PhD course in India, I think.

2-3. General information of US grad school, life in general

There is a cartoon about US science grad student lives. It looks very different from Japanese students, maybe because all students in US are paid? (not in Japan)

PhD, piled higher and deeper

<http://www.phdcomics.com/comics.php>

Before becoming PhD candidate (first 2-3 years in grad school), main is course work. The first year is the basic course (mechanics, E&M, quantum mechanics, etc) and the second year is advanced course (my case, quantum field theory, gravity, etc). There are lots of homework so you are not bored!

For typical foreign students, English is the biggest problem. I spent 2 years to understand something, and 4 years to communicate well in English.

3. Personal thought

Q. Why US grad school?

A. Because you are paid \$\$\$, and you can get degree!

Q. Anything hard?

A. It takes while for me to accept American culture

Anyway let's apply! If you want to get job (postdoc, industries, etc) in US, it is extremely helpful to get PhD in US.