

Choosing a Thesis Lab

(From Washington University)

A thesis lab is the place that you will spend much of the next several years of your life. The work you do in your thesis lab will influence the work you do in the rest of your career. The recommendation you receive from your thesis advisor will determine what options will be open to you after you receive your degree. Choosing your thesis lab is an important decision, so take it seriously and make it carefully.

Outline (this handout contains a lot of information. Don't feel you have to read or understand it all at once. Look at parts then come back and look at more. Choosing your thesis lab is a process that will take a year or more so there is a lot to think about.)

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First Know Yourself:

Your life goals, priorities, and values

Only you can decide what you want out of life.

Your career goals

What would you eventually like to do with your PhD? Are you interested in doing research in industry or academia? Do you want to teach at a small liberal arts college? Do you see yourself in a non-traditional science career? Think about the kinds of research that are compatible with your career goals.

You might also want to consider the job market. Some research areas will likely be in more demand in the coming years. For example, as genome sequencing projects are completed, bioinformatics and proteomics will likely become increasingly important.

Be aware that currently many life science PhD holders get jobs that are not in research or teaching; however, the vast majority feel that their science training was useful in their current career. (see <http://nextwave.sciencemag.org/> or <http://www.nsf.gov/>)

Your research interests

What area of research really interests you? Which labs are doing research that you find compelling? If you choose thesis work that you find interesting and exciting, you will enjoy discussing your research with others. You will enjoy thinking up experiments to test your ideas and carrying them out. You will enjoy reading journal articles, going to seminars, and attending meetings in your field. And most importantly, you will not mind working on the weekends or at 2 AM. By the end of your thesis work, you will be an expert in your area, and you will have enjoyed getting there.

Your Personality and Work Style

Labs are not one size fits all. Some students excel in labs where other students would flounder. You need to decide what kind of a thesis advisor and lab environment will be right for you. Do you work better with a PI who is very hands on or would you prefer a PI who lets/expects you to solve your own problems? Do you want a PI who motivates you by encouragement or by criticism? Would you prefer a large lab or one that is smaller? **There are no right or wrong answers; just be aware of what you prefer.** Look at [PI Fit](#) and [Laboratory/Department Fit](#) for ideas of preferences. And consider that personality and work style conflicts as well as differences in expectations are probably the main reasons that students leave thesis labs, so **choosing a PI and lab environment that are a good fit for you is essential.**

Second, Identify PIs/Labs that might interest you

Use the 'Faculty' section on the DBBS website (<http://www.dbbs.wustl.edu/facultyresearch>) and identify PIs whose research interests you. Make a list of 5 to 20 PIs whose research interests you. Then show the list to senior graduate students or long time technicians. Ask them to make comments about the PIs on your list. If you hear from several independent sources that someone is very difficult to work with, you should be careful choosing that lab as a thesis lab. You are here to learn and get a degree. You don't want to be miserable at the same time. Based on what you learn, try to narrow down your list.

Third, Interview Potential PIs/Labs

Once you have your list narrowed down to 5 (or so) labs, start interviewing potential PIs and Labs.

Call or e-mail the PI and say you are interested in the research the lab is doing. Say you would like to talk with him or her in person. (Take note of how easy or difficult it is to schedule an appointment—generally it is better for a student to have a PI who is accessible.) Use the “[Questions to ask a PI before doing a rotation](#)” and interview the potential PIs. Write down other questions you want to ask, so you don’t forget. Be respectful of the PI’s time—arrive on time to any meeting you arrange and ask your questions but not take up too much of the PI’s time. Remember to thank the PI when you are finished and say you are still considering your options, but you will get back to him or her later. And don’t forget to get back to him later whether or not you decide to rotate there.

Questions to ask a PI before doing a Rotation

(Bold questions are especially important)

Tell me about your Research and the ongoing projects in the lab? (Their Research Abstract can be out of date.)

What do you expect from a Rotation Student in your lab?

What do you expect from a Graduate Student in your lab? What do you see as your role as a thesis advisor?

If I did rotate here and we both felt that your lab would be a good thesis lab for me, would you have the resources (time, lab space, funding) for me to be a graduate student in your lab?

I know that it takes most graduate students at least 5.5 years to complete their degree. Do you foresee yourself being at the university for that time period?

Tell me about the students who have graduated from your lab: what did they work on, how long ago did they graduate, what degree did they receive (MD/Ph.D., Ph.D., or MS), and what they are doing now? (For newer faculty who haven’t had or graduated students yet, these questions may not be applicable, but for established labs and PIs these questions can be some of the most telling. PIs who have good mentoring relationships with students are happy to tell you about them. Excellent mentors continue to mentor their students even after they graduate. If you feel you are getting incomplete or evasive answers to these questions or if an established lab has graduated very few students, be careful.)

Tell me about the style of rotations that students do in your lab? (Do rotation students work with a Post Doc, Graduate Student, Technician on their project or do they have a small project of their own?)

Tell me about the style of lab (friendly, competitive, quiet, noisy, etc.?)

What projects/areas of research might be open to a Rotation Student/Graduate Student in the lab?

Fourth, Check the PI’s “References”

After you have “interviewed” the PI, you next should do the equivalent of checking his or her references. Talk with the other students/technicians/post-docs in the lab. Ask questions like “What is expected from a graduate student in the lab?” and “When I talked with the PI, s/he said _____, do you find that to be the case?” Also ask questions like “Would you recommend this lab as a thesis lab?” Be very careful if the answers the PI gave you and the answers the students give you don’t match.

If there aren't other students in the lab, try asking students down the hall or senior students in that department or program. Do not hesitate to ask for email addresses of former students to ask them about their experience. You can also get valuable advice from technicians and post-docs so don't be afraid to ask them for info. Also, you can also ask your coordinator if they know students who have rotated in the lab.

Remember to consider the source: one person's perceptions may be wrong, but if you hear the same thing from a couple of independent reliable sources, it is probably true. Rumors often have a grain of truth, but if you are talking to someone who heard the story from someone else who heard it from someone else, the truth could very well be distorted. If you can, try to find a closer source.

Questions to ask Students/Post-docs/Technicians before Rotating

Are you happy in the lab? Are you happy with the PI? Your project? The lab equipment? Your labmates? The department?

Would you recommend this lab as a thesis lab? Why? What advice would you give to a student entering the lab?

Does the PI keep your best interests in mind? Do you feel that you are developing into a good scientist in the lab? Does s/he encourage your own interests, rather than promoting only his or her own?

How do you think that the PI is thought of in his or her field? In the university?

You can look at the "[Questions to ask other students/post docs/technicians in the lab or who have been in the lab or who are down the hall](#)" for ideas of other questions to ask.

Tips on getting Students/Post-docs/Technicians to talk (and spill all the dirt) and interpreting their answers

Students/techs/post-docs in the lab may be very reluctant to answer your questions in their lab, especially if the PI is around. People will probably be more likely to tell you the dirt if they are not in a large group, so ask one two or of them if you can take them out for a cup of coffee or if you can meet them for lunch sometime to talk about the lab. Or stop by the lab later after the PI is gone, and talk with them then (Also notice the schedules the lab keeps—if everyone works to 10 p.m., are you willing to do that, too?) Of course most technicians won't be around the lab in the evening.

Students may also be more reluctant to answer your questions if they don't really know you. You need to build rapport between you and the other student(s). You might try taking a student or two out for coffee. You could start with "I'm new to St. Louis. What do you like to do? Listen to their answers and ask more questions. Ask where they are from originally (small talk). Your goal is to get them comfortable with talking to you, but also you can pick up valuable info, like if someone says they don't do anything in St. Louis because they work all the time—that may indicate the culture of the lab. Move the conversation towards lab stuff. You can say, "I'm interested in the lab, what project do you work on?" Listen and ask follow up questions. You might then ask "Are you happy with your project?" and then move on to asking the other questions from the list.

You might need to talk to a student/tech/post-doc more than once. Some people need more time before they get to know you enough to answer questions.

Listen carefully to what students/techs/post-docs say about the lab and also what they don't say. Individuals who answer "Would you recommend this lab as a thesis lab?" with "Yes, but..." are probably saying "No." Students who hesitate or evade the question when asked "Are you happy in the lab?" are probably not. Students who are happy with the lab and their PI will be glad to tell you so.

Tips about Selecting Rotations from Current Students

- DO NOT commit to a rotation until you have thoroughly talked to the students, post-docs, and technicians in the lab as well as the students in labs down the hall. Sometimes the PI's that seem the nicest, the most interested in you are the ones that are the most difficult to work with.
- Make sure after you talk to the PI that you are clear that you are still checking out a couple of labs and you will let him or her know about whether or not you want to rotate. (Some PIs assume that if you talk with them, you must want to rotate in their lab.)
- Consider the kind of rotation experience you will have in the lab. For example if you don't have much lab experience, you might try to arrange it so your first rotation is with a lab/PI that has a good reputation for helping teaching students techniques.
- Try to find out what it is like to be a graduate student in the lab. Find out if the answers the PI has given you match the experience of those in the laboratory. If they don't be very careful. If you find out something that makes you not interested in the lab as a thesis possibility then DO NOT ROTATE in that lab.
- If you find out something about a lab/PI that makes you sure that you wouldn't want to do your thesis work in that lab after you have committed to doing a rotation with the PI, let the PI know as soon as possible that you won't be doing a rotation there. You might say something like from coursework/reading you have really found another area that you are really interested in and you really want to do a rotation in that area. Thank the PI for his or her time and try to be considerate BUT don't waste your time doing a rotation that won't help you find your thesis lab. You can back out of a rotation—but consider that it doesn't create a good impression of you. It is better to not commit to a rotation until you have thoroughly checked out the lab.
- Rotations at the Danforth campus: Consider doing Danforth rotations during the summer or beginning of your second year when you don't have coursework because it takes a lot of time to go back and forth between the campuses.
- You are important! Most PIs want graduate students in their lab because graduate students do much of the research that gets done at this institution. Find PIs who are working in areas that you are interested in and then "interview" them for the position of being your PI. Ask lots of questions. Check out their "references" with others. Don't settle for a mediocre mentor—there are great ones out there: you just have to do your homework to find them.

Fifth, Do Rotations in Your Top 3-4 Labs

The purpose of doing rotations is to find your Thesis Lab. *It is not to publish a paper or complete a project.* It is a chance for you to interact with others in the lab including the Primary Investigator (PI) and see in a hands-on way the experimental questions that the lab is addressing and the techniques they use to answer those questions. It is a chance to evaluate if you would fit well into the lab as well as determine if you like the questions and approaches the lab is pursuing. Your purpose in doing a rotation should be to find out what being a grad student in the lab is really like.

Once you have talked with the PI and checked him or her out with others in the lab, evaluate whether or not you want to do a rotation. If you do, call the PI back and set an approximate start date.

Rotation space does fill up, so try to decide which rotations you are doing as soon as you can. However, do talk with others in and around the lab before deciding to rotate, because your opinions of the lab may change after talking to those in it.

While you are rotating, remember that Rotations are not necessarily representative of what it is like to be a graduate student in the lab. During your rotation make sure you ask current graduate students and others around the lab lots of questions to determine if the side of the PI and lab that you are seeing is the same as their daily reality.

Look at the following pages to get ideas of questions to keep in mind while you are rotating:

- [Questions to ask PI before joining the lab](#)
- [Questions to ask other students, etc. before joining the lab](#)
- [Questions to ask other PIs](#)
- [Questions to ask support staff](#)

Here are some areas to consider while you are doing your rotations:

- [PI academic considerations](#)
- [PI fit considerations](#)
- [Characteristics of a Good Mentor](#)
- [Lab and Department academic considerations](#)
- [Lab and Department fit considerations](#)

Obviously choosing a good PI is crucial to succeeding and enjoying graduate school. Remember when looking at areas to consider that no PI is perfect--your task is to determine which areas matter the most to you and find a PI who matches your expectations. Also remember keep in mind that your PI choice is more important than the department--the department may provide some support but not at the level that your PI will.

Rotation Tips from Current Students

Classes vs. Lab work. You may have heard that classes are your main focus your first year in graduate school. This is not entirely true. Yes, you do need to pass your classes, but you also must find a Thesis Lab. The effort required for your lab work is at least as much as your coursework. (Most current students say they spent too much time doing their coursework and should have spent more time on lab work.)

APPEARANCES ARE IMPORTANT. If the PI has decided you are a slacker because s/he only sees you in the late afternoon (even though you stay at the lab until late at night after he is gone), you will likely have a difficult time changing his or her opinion about you, and s/he probably won't agree to having you become a permanent graduate student in his lab. There is an art to making sure the PI sees you are working hard. Some tips:

- Make sure the PI sees you working. Arrive at the lab before the PI and be doing lab work when he arrives at least occasionally. Most PIs think that if they see you there in morning that you must be a hard worker.
- Let the PI know about times you are at the lab when s/he isn't there. For example, say "When I was here at the lab Saturday afternoon, I was thinking about my experiments and"
- Let the PI know that you are interested in your project. Examples: make comments about future interesting experiments, ask questions that show that you are thinking about the project, and ask what important papers from the field you should read.

- Read the literature. Ask the PI questions occasionally about a new paper in Nature, Science, Cell, etc. that pertains to your project.
- Don't spend too much time doing outside activities in the lab. Everyone surfs the net a bit or checks their e-mail—just make sure that you aren't doing those things every time the PI sees you.
- And when experiments fail (which they will) and you have no data, letting the PI know about all the things you have tried but that didn't work can be an effective way to let the PI know that you are working.

We like to think that the PI will judge you by what you accomplish and not by appearances BUT this is often not the case. Appearances are important. First impressions are important. Yes, these are petty. Yes, they are brown-nosing (at least a bit). But doing at least some of them may keep your PI happy with you.

Rotations are not necessarily representative of what it is like to be a graduate student in the lab. During your rotation make sure you ask current graduate students and others around the lab lots of questions to determine if the side of the PI and lab that you are seeing is the same as their daily reality.

You are NOT required to finish a project during your rotation; however, you do want to be respectful of the PI. Talk to your student coordinator about your situation to help you decide.

If you are truly miserable in a particular lab, consider ending the rotation early but ONLY after you have talked with the PI about what is bothering you: the PI may be able to change this detractor and the lab may become perfect for you (talk to your student coordinator, program advisor for advice). Grad school is difficult enough without being miserable.

Questions to Ask a PI before Joining the Lab

- **What do you expect from a graduate student in your lab?**
- **What do you see as your role as a thesis advisor?**
- **Tell me about the students who have graduated from your lab: what did they work on, how long ago did they graduate, what degree did they receive (MD/Ph.D., Ph.D., or MS), and what they are doing now?**
- **Will you tell me if I do something or behave in a way that is inappropriate? Will you tell me if I am failing to progress? When will you tell me (threshold)?**
- Explain the role a student plays in choosing and developing his project.
- I know students take 5.5 years or longer to complete their projects. Do you see yourself being at Washington University for that time period? How do you see funding, etc. for that time period?
- I know that I am year(s) away from it now, but how do you handle journal article writing—do graduate students actually do the writing or do you prefer to do it some other way?
- What journal clubs/seminars/local, regional, national, and international meetings do students attend?
- I'm interested in "X" aspect of the research in the lab. Do you think that could make a good thesis project? Is that project available i.e. not already part of someone else's project or not promised to someone else?

Of course this is not an exhaustive list of questions to ask. The first questions help you understand what the PI sees as his or her role and what s/he expects from his or her graduate students. If your views on topics differ greatly from what the PI expresses, then you should be very careful about choosing that lab as a thesis lab. Your relationship with your PI is very important for the next steps in your career, and **if you and**

the PI disagree fundamentally on your expectations, it is unlikely that you and the PI will have a good working relationship while you are in the lab.

“A good advisor will serve as a mentor as well as a source of technical assistance. A mentor should provide, or help you to find, the resources you need (financial, equipment, and psychological support); introduce you and promote your work to important people in your field; encourage your own interests, rather than promoting their own; be available to give you advice on the direction of your thesis and your career; and help you to find a job when you finish. They should help you to set and achieve long-term and short-term goals.”

Questions to ask other students/post docs/technicians in the lab or who have been in the lab or who are down the hall

- **Are you happy with your project? The PI? The lab equipment? The department?**
- **Would you recommend this lab as a thesis lab? Why? What advice would you give to a student entering the lab?**
- **Does the PI keep your best interests in mind? Do you feel that you are developing into a good scientist in the lab?** Does s/he encourage your own interests, rather than promoting only his or her own?
- **How do you think that the PI is thought of in his or her field? In the university?**
- How does the PI handle it when the project has setbacks or isn't working?
- Does the PI react well to your suggestions for experiments or directions for your project?
- What level of your participation for deciding directions for your project is expected/allowed?
- Do grad students work primarily with a Post-Doc, other students in the lab, with the PI or on their own?
- Do you feel that the PI pays enough attention to your project? Does s/he have enough time to give everyone's project sufficient attention? Or is s/he too busy?
- What do you think about the scientific ideas that the PI has? Are they well thought out? Practical? Innovative? Are they of interest to other scientists?
- Does the PI help students find post-docs, etc after graduating from the lab?
- Is the PI hands-on or hands-off, moody or even-tempered, have favorites or treat everyone the same etc. (see if these answers match what the PI has said, others in the lab have said, and your experience in the lab.)
- What do you think is the best thing about the PI? The worst?
- Does the PI have any quirks? Or is there anything that you do that will make the PI really upset?
- What do you think about “X” as a thesis project?
- What participation levels in journal clubs, seminars are expected?
- What participation level in writing journal articles is expected?
- Is attendance at journal clubs/seminars/local, regional, national, international meetings encouraged?
- Is it acceptable to have interest/activities/children outside of lab?
- What is “work?” (some PIs measure work only by what experiments get done, not other activities such as reading articles, thinking about your project, attending seminars/journal club, or TAing.)
- What are the weekend and vacation policies?
- How have graduate students in the lab done?
- Does the PI give good advice? Does the PI treat lab members well?
- Is s/he good at managing the lab? Does the lab run smoothly?
- How does the PI handle disagreements between lab members?

- **If you were able to start your project over again is there anything that you would do differently?** (sometimes this helps identify flaws a PI might have—for example, if a student says that she might have focused her direction better, it might indicate that that is an area in which the PI is weak.)
- **Is there anything you wish you had known before you joined the lab?**

Sometimes the best people to ask about a lab are the ones down the hall in another lab (they are less worried about repercussions if they say something negative).

Questions to Ask Other PIs in the Department or Program

- I am working on choosing my thesis lab. How have graduate students in the PI's lab done?
- How do you think that the PI is thought of in his or her field of research?
- What do you think about the scientific ideas that "X" has? Are they well thought out? Practical? Innovative? Are they of interest to other scientists?
- What advice would you have for someone joining "blank's" lab as a thesis lab?

Questions to Ask Support Staff (Clerical staff, Student Coordinators, etc.)

- What do you think about the PI?
- Is the PI a good manager?
- Does the PI's lab run well?
- Is the PI organized?
- Does the PI treat others well?
- Does the PI become angry easily?
- How does the PI handle things when something goes wrong?

Sixth, Evaluate All your Information and Make a Decision

Hopefully, you will have chosen 3 or 4 excellent labs to rotate in and after doing your rotations, you will have the difficult proposition of choosing which excellent lab to make your thesis lab.

Look through the [PI](#) and [Lab/Department](#) considerations. Look back over the questions you should have gotten answered during your time rotating. Weigh the pros and cons of each lab. Current upper-level students emphasize how important it is to choose a good mentor. Look over the ["Characteristics to look for in a good advisor"](#) and try to decide which PI you are choosing among will be a great mentor.

Don't be rushed into a decision. If you really aren't sure, maybe you should do another rotation. It is better to make a thoughtful, informed decision that you will be happy with than to rush into a lab that isn't right for you.

Trust yourself. If you have doubts about a lab, you probably feel that way for a reason. If a lab just feels right then go for it. You are intelligent. Combine your logical evaluations with what your gut impressions are and you will most certainly find an excellent lab.

PI Academic Considerations

Mentorship track record How many graduate students has the lab had? How many have graduated and how long has it taken them? What are they doing now?

Research area Are you interested in the area? Will it fit with your career and life goals? Is it interesting to others? Will there be a project that you will be able to complete in a reasonable period of time?

Lineage Who did the PI do his or her graduate and Post Doc work with? Do his or her graduate and post graduate advisors have good scientific reputations?

Publications What journals does the PI publish in? Are the journals peer-reviewed and well respected? Is there a history of the lab publishing something every (or about every) year?

Tenure Does the PI have tenure? If the PI will be up for tenure during the time you will be in the lab, is s/he likely to get tenure? (You would prefer a PI to stay at the institution during your course of study.)

Scientific reputation Is the PI well thought of by his peers? Are his or her scientific beliefs shared and/or respected by others in the field?

Collaborations and contacts Does the PI collaborate with other groups? Does the PI have contacts that will help you further your career goals?

PI Fit Considerations

Communication style Does the PI communicate his or her expectations to you clearly? Can you discuss your expectations? Will the PI tell you if you are doing something inappropriate?

Trustworthiness Does the PI do what s/he says s/he will? Can you trust that s/he will give you credit for the work you do? Will the PI look out for you professionally and personally? (Some people say things they don't really mean or promise the same project to multiple people.)

Mentorship skills Will you learn about the aspects of being a good scientist i.e. planning a project, interpreting experiments, writing papers, grant process, grant writing, presentation skills, etc.

Expectations of graduate students Ask both the PI and others involved in the lab what is expected of graduate students in the lab? Do the answers match? If they don't match be careful. Are the PI's expectations in line with how you see graduate school?

Involvement level in students' projects How hands-on, hands-off, or micromanaging is the PI?

Accessible or inaccessible Is the PI physically present at Wash U or traveling every other week? Is the PI in his or her office, or the lab, or is s/he in meetings all day long?

Approachable or inapproachable Do you feel comfortable talking with the PI?

Temperament Does the PI put lots of pressure on students or is s/he more "go with the flow." Is the PI moody or even-tempered? Is s/he generally an optimist or pessimist? Does the PI play favorites or treat everyone the same?

Management competence Does the lab run smoothly? How does the PI handle conflicts between lab members?

Motivational techniques Does the PI motivate students by praise and encouragement or by criticism and blame? Are these done in public or private? (public criticism is not pleasant)

Characteristics to look for in a good advisor, mentor, or committee member

(It is unreasonable to expect one person to have all of the qualities you desire. You should choose thesis committee members who are strong in the areas where your advisor is weak.)

1. Willing to meet with you regularly (at least 1 hour every week or every other week)

2. You can trust him or her to

- give you credit for the work you do
- defend your work when you are not around
- speak well of you and your capabilities
- tell you when your work is or is not good enough
- help you graduate in a reasonable time frame
- look out for you professionally and personally

3. Is interested in your topic

4. Has good personal and communication skills

- you can talk freely and easily about your research ideas
- tells you when you are doing something stupid
- patient
- never feels threatened by your capabilities
- helps motivate you and keep you unstuck

5. Has good technical skills

- can provide constructive criticism of papers you write or talks you give
- knows if what you are doing is good enough for a good thesis
- can help you figure out what you are not doing well
- can help you improve your skills
- can suggest related articles to read or people to talk to
- can tell you or help you discover if what you are doing has already been done
- can help you set and obtain reasonable goals

6. Will be around until you finish

7. Is well respected in his or her field

8. Has good connections for the type of job you would want when you graduate

9. Willing and able to provide financial as well as other support

Lab and Department Academic Considerations

Physical resources (including equipment, lab space, computers, meeting space)

People resources (including ordering person, technicians, post docs, other grad students, and computer/network technical support)

Lab meetings Does the lab have them? Are they regularly held? Are they effective in providing useful feedback from others on your project?

Departmental seminars with outside speakers Does the department have them? Are the speakers relevant to your area of research?

Departmental seminars with Wash U speakers Does the department bring in speakers from other departments? Do students/faculty/post docs in the department also present their work?

Departmental journal clubs Are they held? Are they on topics that are useful to your research?

Lab and Department Fit considerations

Can you work with or around the others who are in the lab and department?

Large vs. small large and small labs or departments have different dynamics. Which are you the most comfortable with? Both have their pros and cons so try and understand the benefits and drawbacks of each.

Spread out vs. crowded Does the lab have enough physical space for you to work in? How spread out is the department?

Central vs. isolated Some departments are far away from Cori and Erlanger Auditoriums or the EPNEC or Holden and the Farrell Learning and Teaching Center where many seminars are held. Will you be able to attend classes, seminars, etc. conveniently from the department? Are some labs far away from others in the same department?

Social vs. antisocial Does the department have well attended Happy Hours or holiday parties, etc.? Do the lab members socialize outside of lab work?

Collaborative vs. non-collaborative If you run out of something you need can you borrow it from another lab? Do labs in the department share equipment? Do labs collaborate on projects? Do those in the lab work together or is it every person for him or herself?

Pro grad student vs. low grad student support Does the department or lab treat grad students well or are they looked at as a cheap source of labor?

Safety conscience vs. safety lax How safety conscious is the lab? Do you prefer a lab that is a super-stickler for every safety regulation or do you prefer a lab that is more relaxed about safety? Keep in mind that there are certain universal guidelines that every lab should adhere to including no food or drink in lab, A well controlled hot room, and sharps containers. Beyond this, what else does the lab use? Lentiviruses? Lots of radioactivity? Infectious agents? Are you comfortable with these practices and reagents?

Noisy vs. quiet Some labs are absolutely silent. Some labs play music or the radio loudly. Will it drive you nuts if someone else in the lab likes playing music you hate loudly?

Neat vs. messy Do members in the lab have cleaning duties or lab chores? Does everything in the lab have a proper place?

Considerate vs. inconsiderate Do others in the lab order more if they take the last of something? Is lab work interrupted by having to borrow necessary items from other labs or visit on campus freezers?

Seven, In Your Thesis Lab

Conflicts between PIs and Students

Consider: Your relationship with your PI is a commitment of 4-5 years. You must find someone with whom you can work and communicate effectively for that length of time. Every relationship has ups and downs and even students and PIs who usually have a harmonious relationship sometimes have disagreements. Usually these are minor and are resolved.

As a student if you have serious conflicts with a PI, you must make working out these problems a priority. You are dependent on your PI to write recommendations and to promote you and your work to the academic community. Your Program Director or Thesis Committee members are good places to seek help and advice if problems arise. In their capacity, they serve to make sure that you will

get a Ph.D. and an integral part of that is ensuring constructive interaction between a student and PI. DO NOT HESITATE to get in touch with them and make them aware of the issues you are having but do not expect that the situation will resolve as soon as they are aware of it. Instead, take their advice and realize that the only people that can make the student-PI relationship work are the student and PI.

Consider the vacation policy that has been a source of PI-student conflicts in the past.

VACATION POLICY (from the DBBS website)

Time Off Policy. Student appointments to the Division are considered to be 52-week appointments and do not follow academic vacation schedules. Planned absences should be approved by the supervisor and unplanned absences reported to them. “Supervisors” in the graduate years are program directors, rotation mentors, TA supervisors and/or thesis mentors, as is appropriate. For MSTP students during their medical training, the Director of the MSTP program will serve as the supervisor. The total amount of excused absence should be consistent with that of academic employees of the University. This would include: University approved holidays; 22 days of vacation; and 12 days of sick time off annually. Sick time off and vacation are not carried over from year to year, are not accrued (available from time of appointment) and are not subject to payout at the termination of the graduate student appointment. Therefore, informal monitoring of this time off by supervisors and students will normally be sufficient. For students in Ph.D. training, disputes between supervisors and students should first be addressed by the Program Director. For MSTP students in medical training, disputes will be resolved by consensus between the MSTP Director and the clinical supervisor.

Family Leave. Students may also receive stipends for up to 1 month of parental leave per year for the adoption or birth of a child. Either parent is eligible for parental leave.

Notice that disputes should be addressed by the Program Director and if that is unsuccessful then the Program and Student Affairs Committee (PSA) will serve as final arbiter. But consider what actually taking a dispute to them would actually do to your relationship with your PI.

Minimize the chance of having a serious conflict with your PI

Choose a PI carefully. Choose someone who you respect and trust to be fair and ethical. Choose someone who has a philosophy of grad school that you agree with. Don't choose someone who is well known to hold a grudge, because it is a guarantee that you will annoy your PI at some point during your graduate school career. Remember your relationship with your PI will last at least through graduate school and probably beyond it. Choose someone you can get along with for the long haul.

Understand what your PI's expectations are and communicate your expectations clearly.

Problems often seem to arise when both sides expect different things. You need to take the initiative and ask your PI what s/he expects from you. You need to take the initiative and explain what you expect of your PI. If you disagree on points work them out before they are big issues.

Ask how you are doing periodically. You should actually have a conversation with the PI about how things are going and what areas you need to improve on. The best way to do this is with a regular meeting, be it once a week, once a month or twice a year, you should be meeting with your PI on a one-on-one basis regularly. Take his or her comments seriously—work to improve

areas you are weak in. You can look at the written evaluations that a PI fills out about you, too (ask your student coordinator).

Top 10 Ways to be a Good Grad Student

10. Develop a Support Network including Your PI, Other PI, and Peers

You need peers and other PIs you can talk with. Find them before you really need them. One good way to develop a network is to be involved in activities like the Student Advisory Committee(SAC), Young Scientist Program (YSP), Future Educators (FE), Graduate Student Senate (GSS), Graduate Professional Council (GPC), or others (see <http://www.dbbs.wustl.edu/dbbs/website.nsf/WV/437F4A71830AFD3486256D57005F3DEC?OpenDocument&DN=9900&C=Admissions&U=ED8E8CBF6CDCF8B862571D2005A99F7> for connections to some of these web sites). You get to know other students from years other than your own. Senior students can be a great source of information.

9. Ask for help when you need it

When your experiments aren't working, get help from your PI and your support network. When you go through the "Why am I in Grad School" phase you need to be able to talk to someone.

8. Be organized and prioritize

You only have so many hours in the day. You need to know what the most experiments and/or other work is every day. Do the most important things first (e-mail is probably not one of the most important things). Consider using a 'To-do List' to keep yourself focused, especially once you start multi-tasking with multiple projects.

7. Ask for Constructive Criticism and Take it Seriously

Ask your PI what you are doing well and what you could do better. Work on doing better in the areas s/he suggests. Ask for critiques of your presentations and practice to become better.

6. Talk with Others about Your Project

Talking with others about your project is a great way to get feedback and sometimes great ideas that you might never have thought of. Go to meetings, retreats, etc. and present your work.

5. Focus on Your Project

Minimize distractions. Pick the few things that you feel are important and do them, and at the same time make sure you are making progress on your project. Focusing on your project doesn't mean you have to lose balance in your life—you can have other interests, you just have to make sure your project is moving forward. Outside interests are good. They help you to stay sane during grad school.

4. Read the Literature

By the time you finish here, you will be an expert in your area. That doesn't happen overnight—you need to read articles and know what is going on in your field scientifically.

3. Think about Your Project

What would be the crucial experiment to prove whatever it is you are trying to? Figure that out and do it. Completing experiments is part of grad school but being able to direct and plan your project is another.

2. Communicate with your PI

Listen to your PI's expectations and express yours. Work out minor differences before they become major problems. Ask how you are doing and what you could do better. Take your PI's suggestions seriously.

1. Work Hard

Move your project forward every day. Do the most important things on your priority list. Be efficient while at lab (not too much e-mail and other things). You will likely work long hours and weekends (at least some of the time).