Chapter 10

Grads Speak
For an even more personal touch, EGSA asked engineering graduate students for a few comments to include in this handbook. Specifically, we asked them to tell us what one piece of advice they would offer to incoming students, to comment on things they wish they had known when they arrived, and to describe their experiences in research. To preserve anonymity, we removed all identifying information. We welcome your suggestions and contributions for next year’s EGSA handbook.

10.1 One Piece of Advice

“You can never start research too early. Read periodicals and join associations as soon as possible to get yourself familiar with the academic world. The library has a reading area for this exact reason. When I started out, I went a whole year without effectively using one of the greatest resources Cornell has, the library system.”

“The most important thing to do as a grad student is to make sure you chose the right advisor. One thing that is really important is to make sure that your advisor is interested in your future not just their future. A lot of bad things can go wrong that way.”

“Pick your advisor very carefully. When you have someone in mind, check with his/her graduate students to see how happy they are. Find out what sort of working environment the professor maintains and what sort of work commitment he/she expects. You will likely be with this person for your entire graduate career — so you ought to like him/her. (It is certainly possible to switch advisors mid-way through, but that is a difficult thing to do - and costs time.)”

“Don’t make your research the only focus of your life. You have to enjoy your time here, since once you start working, you may not have this kind of time, and you don’t want to regret your graduate school time.”

“Work throughout the whole week. Don’t do it all the night before you meet with your advisor. Spread it out.”

“Don’t be afraid to get help when you think things are getting a little tough. I think that pretty much everybody goes through the troubles of getting used to everything. This is not to scare anyone. Things aren’t always as bad as they seem. Get some help early and you’ll be a lot happier.”

“Make friends outside your department and outside of engineering. Cornell is a place bustling with all kinds of people — many of whom could become great friends. If you don’t look for them, you may never know.”

“Look for opportunities and experiences beyond your office, your department, your college. There are so many wonderful activities in Cornell and Ithaca that it is worth taking advantage of them while you are here!”

“In addition to a main advisor, consider choosing a “mentor” who can guide you in your professional life and endeavors. This person need not have any connection to your research, but can act as a good sounding board if you have academic problems, and a resource both during your time here and afterwards.”

“Many graduate students go through a period of being frustrated about a lack of progress, particularly during their second and third years. Your class work and Q exam are behind you, but you probably haven’t settled on a research project yet. It is easy to feel during this time that you are spinning your wheels and not making any progress. This is perfectly normal for many students, though it can be particularly hard to realize this when talking to other students who have already hit on thesis topics. Try to remember that this time of looking around is
valuable. This is your chance to explore your field, try out new things, and figure out what you are most interested in these days.”

“When they tell you that grades don’t matter in grad school, never believe them. They are either trying to be PC or all they mean is ‘you don’t get credit for good grades, but you get screwed for bad ones.’ I had the bad experience of believing it and ending up in a mess.”

“By far, the most important choice you can make (academically) in grad school is who will be your advisor. Remember, this is YOUR choice. Don’t let anyone, and in particular, don’t let faculty pressure you into a choice that you aren’t comfortable with or feel is the absolute best choice for you.”

“Find some other students who have been here a couple of years and talk to them. That can be very helpful.”

“Get involved right away and learn about what kind of research each faculty member is doing. Do something that you’re really interested in right away.”

“Be sure to do things outside of school. Don’t get so wrapped up in the research or classes — be sure to get out do anything — hike, bike, whatever.”

“Although the two weeks preceding and following the start of classes can be hectic, take as much time as possible to go to introductory meetings for organizations, sports facilities, and student socials. Ithaca can feel isolating at first. Getting plugged into a group of people that have common interests with you can help alleviate this isolation as well as give you some perspective when course loads become heavy.”

“For students from abroad: get a driver’s license as soon as possible, even if it’s only a learner’s driving permit (for which you only have to spend an evening’s time, and some $20 or so). It’ll drive you crazy if you don’t have one soon, because you’ll need a driver’s license for identification on more occasions than you could possibly imagine.”

“Find community outside your department. Ithaca is a surprisingly diverse community, and there’s a good chance the people you most want to meet are actually not in your field, and possibly not at Cornell at all.”

“For students from abroad: it is difficult to get a credit card, but you’ll need one. Ask other foreign students how to get one.”

“Do not become so narrowly focused that you lose track of everything except your research. Maintain a healthy ‘outside life.’”

“Shop around for advisors, try to work with them before choosing one for good. Experience of the advisor IS important. But also beware of ‘famous’ advisors who are good ‘sales people’ but do not do much research themselves any more.”

“Do not take Cornell’s graduate student housing if you can avoid it at all. Try Cornell’s off-campus housing web-page, ask current students of your department for help, come a little early if possible and look at apartments.”

“Research is not your whole life even though people try to tell you that — it’s just not.”

“Get a car.”

“Relax. If you find you don’t have anything to do, instead of stressing go out and enjoy yourself because the hard work will come later.”

“Take it easy and get a life.”

“Dress warm. Live at the top of the hill.”
“Get as much sleep as possible, whenever possible.”

“I found job resources horrible here. Very frustrating and not useful at all. I found them to not know very much, to make a broad generalization. I was interested in working abroad, but when I went to the Cornell and the Engineering job offices they responded to most of my questions by telling me to look it up myself in their library. They had out of date resources that were not helpful. So I found job hunting very difficult, although JobTrack wasn’t bad for engineering, especially now that it was bought out by Monster.com. The web address is <http://jobtrack.monster.com>. I give that a thumbs up.”

“Sleep is very important. Eat breakfast. Drink coffee.”

“Definitely talk to people who have been here a while and ask them what classes they’ve taken. Take classes with good professors, even if the subject isn’t as interesting.”

“When I was taking classes, I was taking about three classes a semester and that was a full-time load. It depends on the classes, but you can expect to work about twelve hours a day between classes and trying to start doing some research.”

“In the beginning, I spent about eight hours a day in the office. I also did a lot of social stuff. But the first year, you have a lot of classes and a lot of homework, and you don’t always do it in your office. The amount of classwork isn’t that different from undergrad; it might even slow down a little. What gets harder is when you are doing your research and you are trying to push yourself. The question is how much time do you force yourself to work, because you don’t have any other deadlines. It depends on your advisor and how much he or she pushes you.”

“Don’t put your outside interests on hold. Don’t go to graduate school kamikazi style and tell yourself that you’re just going to work and do nothing else, because it will be too stressful. You must pursue the things that you really love in addition to your work. Even if you really love your work, you should have something else that helps you unwind.”

“Engineering grad students tend to treat grad school like a workplace, not school. Treat it like school as well; have fun and meet people.”

“Have a balanced life. Don’t get tunnel vision about your research. Investigate non-technical opportunities at Cornell as well. Your research won’t always work and that’s really depressing if it’s your entire life.”

10.2 We Wish We Had Known

“I wish I knew how important the choice of advisors is. Not only does the graduate program differ from department to department, but between two professors in the same department. My course of study is significantly different from other students in my same concentration. Advisors are also a crucial resource after graduation when you are looking for a job. I have found some students who can get a job, with just the mention of their advisor’s name.”

“I would have liked to know that I didn’t have to live so close to campus. I didn’t realize that graduate housing was so much higher than market price — and so small!”

“I wish I had known about some clubs I go to now: the Fingerlakes Cycling Club, Outing Club, and dancing. There is a lot of dancing in the area. If you want to get into dance in Ithaca, try the dance classes. There are a number of teachers in the area.”

“I wish I had known how important an advisor is to one’s research. I didn’t realize that my work would really revolve around his interests.”
“I wish I’d known ahead of time that even though I had a fellowship, I had to link up with a research program to get any funding for laboratory work. In this respect, I’ve been cheap labor for my advisor, since most of my tuition is paid by the fellowship, and yet I’m dependent on my advisor and the research group to pay the lab fees — and so my research gets closer and closer to my advisor’s interests!”

“I would have liked to have understood the exam process for each type of graduate degree (for my specific department). With people briefly mentioning Q’s, A exam, B exam, defense, etc. I wasn’t sure what each meant, when they were taken and what each exam was intended to test.”

“Finding an advisor does not necessarily mean finding a thesis topic. And both of these are your jobs.”

“One should find other things to do. One should take advantage of everything there is to do at Cornell, including taking language classes, taking classes in other departments, and so on.”

“I wish I had been aware of the level of aggression that is required to get and keep attention from faculty members and the field. It is incredibly easy to fall through the cracks.”

“A simple explanation of the parking rules. Parking can be confusing in Ithaca. On most of Ithaca’s streets, parking is prohibited between 2am and 5am on the odd side (i.e. odd house numbers) of the street on odd dates and the even side of the street on even dates [at least from December to April to allow for snow removal]. In practical terms, this means that if you park your car before midnight, you park it on the odd side on an odd date and on the even side on an even date. Always lookout for hydrants and do not park facing opposite the direction of traffic. When parking on campus in the evening, watch out for no-night-parking signs. Make sure that you find a long term parking spot for your car before you leave for the holidays. Each holiday season, more student cars are towed than the towing companies have storage space for and this gets very expensive. When looking for housing, consider parking space as well. It is a BIG hassle to move your car every night from one side to the other.”

“I wish I had detected the downtown Ithaca theaters earlier (Kitchen, Firehouse, Hangar), I can really recommend them. They are usually not much more expensive than a movie ticket, and most times I really enjoyed the show, which I can’t say of most movies.”

“I shop at P&C. Not Wegmans. Only shop at P&C or Tops for basics, unless you need international specialty foods, or bagels, or subs. Wegmans’ 14” subs are the best food. They’re about $7 and you get at least two meals per sub.”

“I wish I had kept better experimental writeups of everything I did immediately after I did it because when you’re writing your thesis it’s really hard to remember exactly how you did everything and what samples you used and what conditions you used. You should make sure that you not only have all this documented in your lab notebook but you may as well write a few paragraphs ”paper-style” immediately after you get every result. I think it would have also helped me be more targeted and focused on my thesis if I had tried to write things for my thesis from the beginning.”

“You don’t have to wait for your advisor to tell you what your thesis is on. You have a lot of control. When I was a new student I didn’t think I had very much control over what I was working on, but it turns out that you have a lot of options to work on a lot of projects. If you want your research to go a certain way or you want to work on a different project that will help shape your thesis, you can propose it to your advisor. They’ll be happy that you are taking control.”
“One of the best things to know when you start graduate school is that everybody finds their first year hard. It's easy to forget that or not realize that everybody has trouble their first year. It's important to have friends and talk to other people.”

“I would really like to see some more honesty on the part of the faculty. It would be nice to know what they truly value and what they just say they value. Facetime? Long hours in the lab? Publications? Teaching skills? Which is it?”

“There are some books about graduate school that are insightful. Look at these books before you start to give you some direction, let you know what to expect and prepare you for the bad times of graduate school. The Cornell career library has a few of these books. There is a guy from Stanford who spent eleven years getting his Ph.D. who wrote one. He really knows how to do a Ph.D., what to do and what not to do.”

“Not everyone who comes to graduate school ends up completing it. This isn’t a bad thing. Ph.D.’s aren’t for everyone, and sometimes one doesn’t realize this until one tries. There is no shame in deciding to leave, for whatever reason. While I don’t advocate quitting, because one may think it easier than finishing, I think it’s important to realize that it’s an option that is available for whatever reason one wants. Don’t feel trapped in a life you don’t want: change topics, advisors, or do something else with your life. I think it took me the better part of a year to realize that it was OK for me to leave without a Ph.D. I felt a non-spoken pressure from my family and the community to get going on a research topic. The pressure wasn’t really there; it was in my head. The people at Cornell want you to succeed, but it doesn’t mean getting a doctorate.”

10.3 Life in Research

“The most difficult part of being in a research group is when there are personality conflicts within the group. I did not get along with a member of my research group and I found that antagonism and competition can be very detrimental to research. I think that best way to resolve a problem is to realize that you don’t have to be best friends with them. Simple friendliness is all that is really necessary.”

“I think the most important thing to keep in mind while doing research is to keep setting goals and checkpoints for yourself. Try to have a weekly meeting with your advisor (or with yourself if necessary) where you go over what you accomplished last week and what you plan to accomplish in the coming week. Also have 3-month, 6-month and 12-month plans in place as well. These will change of course, but having something to focus on is incredibly important.”

“If you are in a research group with people who enjoy what they are doing and you can share your experiences and understanding, then it is a wonderful thing. But, if you are in a research group where people don’t like their work and just want the degree, that can be very frustrating and discouraging.”

“Figure out what your research tempo is and listen to it. Some people work best on a regular 9–5 work schedule, while others prefer to work in sporadic fits and starts. One of the great things about graduate school is that you can follow any working style and schedule that you and your advisor agree on. Keep in mind that finding outlets for non-research interests and taking time out for them can help you be more focused and motivated during the time when you are in your office or lab.”

“I’ve had a wonderfully positive experience working in a research group. We all share the same office, which allows for an easy exchange of ideas and an immediate support network. Although
we don’t spend much social time together outside of the office, since we are all at different points of life and with different outside responsibilities, our research group feels a bit like a family. In addition, I’ve worked closely with a post-doc during my first few years here, and he has taught me more than he will ever realize. I feel very comfortable working with him, and since he is much more accessible than my advisor, I often turn to him for help and guidance. The experience of this research group has added a whole new level to my graduate studies and increased my appreciation for, understanding of, and interest in my work.”

“You should plan what you want to do and then do it. Don’t flounder. Before you run an experiment, plan it out.”

“Find the perfect match with your advisor, because there is no bad advisor or good advisor, you just have to find a good match for you.”

“Start early, but don’t expect instant results. Research takes time. So think about what problem you want to work on, but expect it to take a while to develop.”

“I recommend when you get here and are trying to figure out general guidelines for research that you try to identify if you’re the type of person who likes to have complete freedom to do a complete problem on your own or if you’d rather find an advisor who has a project all set up and you can just fit in and pick a place in it. It makes a big difference.”

“When it reaches the very end, it’s probably better to have spent extra time and worked on something you really like than it is to try to finish faster and work on something that happens to be there. Because when it gets to the end and you really don’t care about your work and you think it’s not worthwhile, that’s really frustrating. So spend a little time in the beginning looking around for something you’re really interested in and if it means taking an extra semester or an extra year because you can’t find the right project right away, that’s okay — it’s probably worth it in the end.”

“Don’t assume everything is going to work.”

“Don’t be in a rush to pick your advisor. Don’t feel like you have to settle on a research topic or a research advisor. Just make sure that the person is doing what you’re really going to be interested in. Because it doesn’t really matter if you find an advisor your first semester or your second semester. You’re not going to have that much of a change to get in depth research done your first year with all your classes. Otherwise you might end up changing advisors midstream and that’s not very good.”

“Think about getting involved in a large research group because if you find yourself working pretty much on your own or with just your advisor or one other person you don’t have people to give you feedback and help you out when you’re having a hard time and celebrate with when you’re having good times and you would be surprised how much of a difference that makes.”

“Definitely do research and also publish papers so that you can go to conferences. I think they are very motivating.”

“Start early. Just find ideas. Start doing something even during your first semester instead of waiting to finish all of your course work before you do your research.”

“Remember that doing research gets you your Ph.D., not classes/classwork and not knowing all areas in your field.”

“Never make yourself indispensable to your advisor or they might not want to let you go.”

“How much time you have to spend working totally depends on who your advisor is. If your advisor wants you to work very hard, then you have to work very hard, no matter what.”
“I stay in my office a lot of the time, but I’m not necessarily working all of that time. I spend about eight hours a day in the office, but I only spend about half of that working. Lately, I’ve been working midnight until 8 AM and that’s working well for me. It’s more quiet and I get more done.”

“It probably took me about six months to decide on my first research project. That’s normal and nothing to worry about, because sometimes you don’t come with the necessary background so you first have to start taking classes and then once you get those classes it’s easier to do research.”

“When your first research paper will be done will depend on your advisor and your background. Try to publish as early as possible, but first concentrate on your coursework and get that done and over with so you can have more time to do research.”

“Keep a broad mind about your studies. Think about the community and social context that you are working in, what your career goals are, and how your work fits into these things.”

“Start to read literature in your field at an early stage of grad school rather than relying on formal coursework to learn this information.”

10.4 Fun Things We Do

“Summers in Ithaca are awesome. You should definitely spend some summers in Ithaca.”

“Bicycling. There are all kinds of off-roads with no traffic, all kinds of bike paths, and off-road riding. Ithaca is great for biking.”

“I like photography. Digital cameras are really great.”

“I would definitely advise taking an outdoor education class and getting involved in some kind of extracurricular activity. I came here and my first semester I didn’t do anything besides my studies and that’s really bad — that’s really depressing. So my second semester I took a cross-country skiing class, I took a first aid class — it got me outside and meeting other people that I wouldn’t normally meet otherwise. They aren’t so expensive either, so you can just sign up for a course. This fall they are having a course that is free of charge where there are five or six different courses and are some that let you explore different activities. In one course you might go rock climbing, to the Hoffman challenge course, hiking, and canoeing. And it’s free so long as you fulfil your obligation to all of the classes, otherwise you get charged. It sounds like a good deal.”

“One of the things I like to do when I want to blow off some steam is to go to the ceramics studio in Willard Straight and spend some time doing something with my hands. I find it’s a nice contrast to doing stuff with my brain.”

“I like to hike the many trails in town. There are lots of hiking trails, mountain biking trails, and state parks. If you like to do stuff outside, this is the place to do it.”

“I use the ice hockey rink on campus. Very frequently I take advantage of it to play hockey with my departmental team.”

“I work out at the Cornell fitness centers.”

“I go watch movies at the on campus theaters.”

“I play a couple of sports. The CS department hockey is really fun; if you’re in CS you should definitely play hockey. I also play some ultimate frisbee right now. There are lots of physical education courses that you can take that are really fun and free. You can take ice hockey
courses. I’ve taken a basketball course. My friend’s taken a volleyball course. They are all free of charge and lots of fun.”

“I’ve taken some courses with Cornell outdoor education, which is expensive, but it has opened me up to what is available in terms of things to do.”

“I like to drive around the lake during the summer. It’s beautiful. I like to do outdoor stuff in Ithaca. Students should take advantage of all of the wine tours, which you can’t really get elsewhere.”

“Ithaca has a couple of really good guitar shops. Ithaca Guitar Works has just about everything that you could want. Rumble Seat Music has really cool vintage stuff and just oddball kind of things.”

“I’ve become involved with a local church which helps me bridge the gap between student world and adult world, which is really hard to do in this town.”

“Travel.”

“Writing papers at Stella’s at 12:30am.”

“I like to ride my bike on Snyder Hill Road.”

“Play squash at the Grummand squash courts.”

“Go see plays at local theaters.”

“In summer and fall when the weather is pleasant, I like to go for picnics by the lake.”

“Play tennis at the tennis courts on north campus.”

“Go to the gym — it’s not that expensive. For any Engineering student, Teagle and Schoellkopf have convenient gyms, so that’s sort of good.”

“I like to swim, but Ithaca’s facilities are unfortunate. Teagle pool is okay.”

“Cornell has very good sand courts for beach volleyball. It is really a lot of fun. Take advantage of it during the summer.”

“Ithaca does not allow for much crafting so you must go to Horseheads instead. That way you can get your crafting equipment such as stamps and markers and things.”

“Biking is good. It’s fun to bike to a picnic in one of the local parks. You can also bike around the lake or on the South Hill or East Hill recreation trail. You can get your bike serviced at The Outdoor Store on The Commons; that’s a good place to take it. They’ll do tune-ups for $25 and they have lots of supplies.”

“The Lindseth Climbing Wall is a really nice place to go for rock climbing.”

“The Cornell Music Concert Series brings people to campus every month and also during the summer, so every other week or so there are classical music concerts on campus. There is also the Cornell Symphony Orchestra that has concerts once a month. The Performing Arts Center has modern dance and ballet and all sorts of different performances. The Ithaca Ballet performs there as well.”

“Try Ruloff’s for nightlife - it’s a good surprise.”

“Helen Newman Bowling Center is good, but avoid Ives Bowling - they have terrible ball returns and they damage your balls. Helen Newman has the only bar on campus, which is a big plus, it’s really cheap, and the people are really friendly there.”

“The intramural sports program is great - either the grad league or the open league. Depending on the sport the different leagues have different competitions, so it varies whether open or grad
league is better. The cost varies, but it’s pretty reasonable for a season - you get a lot of games. If you play with people you don’t know, you can get to meet a lot of people. They have any sport you could imagine. They’re pretty unorganized and fairly gender biased which is pretty frustrating but, that aside, it’s still a pretty good time."

“I do ballroom dancing. I usually dance at the Helen Newman dance studio. They offer classes through the PE department, but you can also just use practice space there when it’s free. You don’t have to pay for just using the space either. There’s a pretty big club of people on campus that do ballroom dancing, and it’s a mixture of undergrads and grad students. There is also a lot of dancing out in the community. There’s swing dancing, Argentine tango, Lindy Hop and so on.”
Postscript

We hope this handbook will serve you well throughout your time at Cornell. If you have any suggestions, additions, or comments, please contact egsa@cornell.edu. We need your help to put together an even better version 3.0!

Good luck with your graduate studies at Cornell!

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