

Los Alamos Dynamics Summer School: Advice from Alumni

“Start working hard early in the program so at the end you are not all stressed working overtime. Enjoy your time here and do more stuff than just work!”

“Start looking for housing as soon as you're accepted. It is a laborious process.”

“Find housing as early as possible - Get started on your work quickly - Hang out with the cohort outside of work - Take a lot of trips - northern New Mexico is surprisingly cool.”

“Housing is really rough, and you have to get on it early. I only got an apartment because I was willing to sign a year-long lease. I would rather live in Los Alamos and commute to Santa Fe a couple of days a week than live in Santa Fe and commute to Los Alamos every day. Los Alamos is in a really beautiful location. Everyone says "you have to get out and explore!" all the time. I'm not really the exploring/outdoorsy type and felt guilty all summer about not "experiencing northern New Mexico." But I think there are many ways to appreciate the location. I really enjoyed going for walks around town and on some of the paved trails. I really enjoy the views on the drive to Santa Fe. I enjoyed seeing the ravens every day. There is lots to appreciate, even if you cannot stand camping.”

“Get out and try new things and meet new people. This is a unique place, leave with some memories. Also be patient in your work, slow down when working on your project, you will learn more and the outcome will be better.”

“Future LADSS students, be prepared for an action-packed, challenging, but once in a lifetime summer. The 10 weeks go by fast and you will never run out of things to do both in and out of work. My advice to you is to never be afraid to ask. You would be surprised how many people at LANL who would be willing to talk with students if they are outside of your mentors. Ask as many questions as you can to make the most out of your summer. Outside of work, my advice would be to go out and explore the beautiful outdoors in New Mexico every weekend. Get together with your fellow LADSS members and plan trips to the Jemez Mountains, Taos ski valley, Ghost Ranch, Santa Fe, or White Sands. If you ask any one of your mentors, I am sure they will give you a whole list of places you need go see over the summer.”

“From week 2 or 3, plan out a couple of possible directions that the project could end up going, including backups for key elements that could fail (e.g. a program doesn't work or you are unable to get a certain shipment in time). Write this plan down and refer back to it regularly. Then *when* something goes wrong and you can't fix it after a week of banging your head against the wall, you have a plan B ready that will lead you to interesting and publishable results without too much headache. Also, hang out with the other LADSS students and have fun!”

“I would advise students to enjoy their summer and get out of the house and travel to do outdoor activities and to engage with everyone you can. I would also advise outgoing people that it may be better to commute from Santa Fe as opposed to Los Alamos because there's a lot more things to do within the city. However, if they are homebodies or appreciate a slower paced city with the outdoors in your backyard, Los Alamos is the perfect place to live.”

“Definitely come to LADSS if you’re on the fence about it. Get the Smiths app, it can even save you money on gas. Enjoy Los Alamos and Santa Fe. Reach out to your mentors. Go out on hikes or explorer the planned trips. Reach out if you are having issues with housing, it can be challenging, so start early.” “Bring snacks if you like food from your hometown. Go out during the breaks. There are field trips and they're great. Do not be afraid to ask questions, everyone is friendly at LADSS and LANL. Overall, this is an irreplaceable experience, and you have to be here to believe it.”

“Get housing early, not all housing options are as great as they seem but living close to the lab is incredibly convenient and you should try to live in town if you don't want a 40+ minute commute from Santa Fe.”

“Ask questions.”

“Make sure you coordinate with your team and mentors! The better you can work together, the better your project will end up, regardless of how much effort you put in personally. Also, frontload data collection if you can. It will ease your stress, and let you focus on analysis in the later weeks, which will take longer than you think. Outside of work, be active! Los Alamos is by far one of the coolest places in the world, and there are so many cool places within a few hours driving. I don't care how expensive gas is, or how tired you are, don't waste your time staying in the area. If you put in the effort, I bet this could easily be the best summer of your life, as it was for me.”

“The biggest thing I can recommend is to make friends with your cohort and get to know them. They are going to be 20 incredibly intelligent and interesting people from around the country, and you can learn a lot from them. Our group did fun trips such as going to the Grand Canyon and Ghost Ranch, and we also had fun hanging out around Los Alamos. Some of us would crochet together some days, while other days, we might just get burritos and hang out at Bathtub (local bar). One guy would make pancakes for us on the weekends, and we all grilled out a few times. Doing stuff like this will make your experience infinitely more enjoyable. In the same vein, ASK YOUR COHORT QUESTIONS. Like I said earlier, these people are going to be incredibly intelligent and know a lot more than you do about some fields. When I was struggling with getting a neural network to run, I complained about it at lunch, which led me to find out that one guy was focusing on machine learning for his masters. He diagnosed the issue right then and there and helped me with any other issues that came up. As for events to go to: -Weekly concerts at Ashley Pond. (We would get food at El Rigobertos and hang out at Bathtub first before going. You can also buy lightsabers there). -Weekly dinner + volleyball organized by the United Church on Mondays (not a religious event if you're worried about that. Just some nice older people giving students a free hot meal) All in all, you will struggle on your project. You will not do everything you set out to do, BUT you will have fun. (PS: Ask Chuck literally anything and everything about the lab. He is your biggest resource.)”

“Try to get a house with a washer!”

“Organize events early like camping trips and things far away. You don't realize in the end just how much there is to do, so just take advantages of weekends as much as you can. We wasted a few of the early weekends and we only realized it at the end. Grand Canyon is a good fourth of July trip cause you have the long weekend. If going to Chaco Canyon, also do the Badlands. Recommend camping in Jemez. Go to Overlook Park and/or Caldera at sunset, it's very cool. There is a Santa Fe day at the end of the summer where you explore Santa Fe. Sports wise: the YMCA has a student deal for the summer that is cheaper. There is a pickup soccer league that plays on Tuesdays and Fridays right after work. There is a coed soccer

league in Santa Fe (look up Santa Fe Adult Soccer League) that has games all summer and a tournament at the end. If choosing this, I would recommend one league, not both. Don't be afraid to join by yourself, it will be awkward at first but the people are super nice. The competition is decent. For housing, do it early. Cannot emphasize enough, try your best to live in Los Alamos. Then try White Rock, don't live in neighborhoods by Caldera, they are cool nature wise but in the middle of nowhere. Neighborhood called El Rancho you can get a larger house but with roommates, but about 25 minutes from lab. It is also common to rent a room in a random person's house, but you can't host events. Get a Smith's card. Figure out laundry and stuff for your living situation. Los Alamos has one small place called Film Festival for laundry. Be prepared a lot of things close at 5, restaurants/bars close at 10. Get to know the mentors they are very good people to know. Before ranking/picking projects, look up the mentors and choose based on their fields as opposed to solely the projects cause the project scope changes a lot. Don't be afraid to reach out to people outside of LADSS, they can be very helpful to seeing other parts of the lab and getting different viewpoints."

"As soon as you get in, GET HOUSING. DO NOT WAIT. Don't feel shy about sharing ideas/concerns/questions with your teammates and mentors. Nobody expects you to know everything. A lot of people come in here with little to no research experience, and almost always no experience that matches the rigor of LADSS."

"People in Los Alamos are so friendly, and the city itself is incredibly safe and visitor-friendly. Going off of that, get housing through someone local rather than AirBnB or something like that. Larger companies will severely overcharge you! As for the program, enjoy the ride. It'll sometimes feel like there's no direction on your project or you don't know anything on your topic, but it will all work out in the end."

"I would tell them to not be afraid to reach out to others in the lab and not be afraid to ask questions. Other directors around the lab are extremely friendly and mentors along with other people are willing to help out and answer any questions. - About the housing situation I would like many emphasize to look for housing as soon as possible and to use all of the resources provided as they will be needed. - Activities in Los Alamos itself are very limited, yet there are amazing things to do in places max two hours away, so I will tell them to gather a group and just go out and explore. There are many things to do such as hike, go to the park, water raft, among many other activities. - Go to any activities the lab organizes or others organized by others. It is definitely not all about working and working, part of being here is also about having fun connecting with the group."

"GET HOUSING AS SOON AS PHYSICALLY POSSIBLE. Try and keep your schedule outside of work as open as you can to explore the area and hang out with your fellow interns. If you feel one part of your project is not moving at the pace it needs to, speak up! It's better to voice your concerns early than try and pivot at the end of the program. Los Alamos is a small town. Small towns can be a ton of fun, but you need to be open to doing things. There aren't any movie theatres or "easy" activities to relax. If you want to have fun, you need to make fun! Be sure to get comfortable reaching out and planning things after work with friends. This can be camping, volleyball, having a friend's dinner, or any variety of things."

"Don't overcomplicate things. If you are going down a rabbit hole of information and feel like it's becoming a complicated problem, talk to your mentors. There's probably a simpler solution that you can work out together."

Casey Gardner, 2020

1. Make sure to spend some time, especially at the beginning of the program, actually getting to know your teammates. During one of our early video calls, my team members and I got off topic from the actual project, and instead started talking about our backgrounds and interests, which definitely helped make collaboration easier (and less awkward) as the summer went on.
2. Make a shared document with helpful links and useful information that you know you will need to reference quickly in the future
3. Highlight (or figure out some other way to annotate) everything you read for your literature review, and write a short 2-3 sentence summary of it so you can easily go looking for something again later on in the summer, without having to re-read the whole paper
4. Stay in constant contact with your mentors, and always keep an eye on the project schedule, to make sure you don't fall too far behind where you want to be at the end of the summer!
5. Don't be afraid to ask questions (cliché yes, but also still very true), and play to your team members' strengths (i.e. if someone has prior experience in something), but don't use that an excuse not to learn something new and not try it out yourself!

Sarah Mantell, 2020

1. Reach out to your mentors about future opportunities at the lab! By just asking my mentors about future research opportunities, I was able to continue working on my project even when LADSS ended. There are tons of different networking opportunities with this program -- make sure to take advantage of them.
2. Don't be afraid to jump through a few different ideas day-to-day. When I got stuck on a particular piece of code, I moved on to another part of the project or a different piece of code. Taking a short break helped me see mistakes I didn't notice at first or helped me think about things in a new way.
3. Ask lots of questions! I often felt like my questions were dumb but decided to take the risk and ask anyways. Turns out multiple people were wondering the same thing and everyone was happy to have their question answered or to confirm that they really understood what was going on.
4. Being wrong is part of the research process. One of the biggest things I worked on this summer was understanding that mistakes are inevitable and critiques are not meant to be personal. I learned to take the critiques to make my work better rather than to view them personally which helped me make good progress on the project.

Ben Rees, 2020

1. You're going to feel lost in the beginning and that's totally okay
2. Make an effort to get to know the other students and mentors
3. Talk to your mentors about their academic and career experiences
4. Look for ways to tie something that's being presented by a speaker to your project
5. Ask lots of questions!

Robert D. Billette, 2019

1. Don't be slow to roll up the sleeves. Get down to work as early as possible. 10 weeks is a short amount of time, and these projects are fairly complex. Always have a plan, even if the plan decides to change later.
2. Don't be intimidated by anyone or anything. The mentors and administrators are extremely nice and helpful, anything you need, just ask. The projects may be challenging, but you can do it. These 10 weeks will push you, and you'll come out feeling well accomplished.

3. Know who knows what. There are experts here on just about any subject you can think of. If you need help, find someone who knows best and they will likely be willing to help. The lab has a very inclusive environment, and everyone wants to share their knowledge.
4. The Keurig will be your best friend.
5. Pay attention in the lectures, they will be useful later. Take good notes, you may need them for your project.
6. Stay organized. You will probably generate a lot of data, and multiple iterations of code. Good bookkeeping will save your life when you're struggling to find the proper data and figures to put in your presentation that starts in an hour.
7. Communication is KEY. Email your mentors daily, give them updates on what you're doing and how you're doing it because if you're doing it wrong, you will save time. Bombard them with emails if you have to.
8. Practice your presentations. These are important. I know my group had a little trouble at times with some subtle details such as wording and "telling the story". But with more and more practice these things iron themselves out. Don't be the hero that goes into a presentation without any preparation. I really didn't see that in anyone, but just be aware.
9. Enjoy the nature. Los Alamos is a posh little mountain town and it is EPIC. Get into hiking, biking, climbing, etc. It's never a bad time to try something new! It's also a great way to meet people.
10. I'm not kidding, the Keurig will be your best friend.
11. Take a weekend trip. Go to White Sands or hike a 14'er in Colorado. Float on some tubes in Lake Abiquiu. Go camping. Do things you might not normally get to do back home.
12. There are hiking trails that pretty much run everywhere throughout the city. Go for a quick hike after work. The views are amazing.
13. Do the trail behind the aquatic center. There is a bridge that crosses the canyon and it's about 200 feet tall and you can see all the way down the gorge with the Pecos Mountains in the background. It's like something from a Bob Ross painting.
14. Santa Fe is sweet, try and visit a few times. Meow Wolf is the coolest art exhibit I've been to in my life. So worth it and so fun. If you don't know what it is, you're in for a treat.
15. Have fun, make some connections and lifelong friends. I think something like 6 marriages have come out of LADSS. You'll be surprised at how close you get with your teammates and co-workers. It's awesome.

Jon Acosta, LADSS 2019

1. Having a very good understanding of your project and managing your time is really important.
2. Don't be afraid to ask for help when you're having equipment issues.
3. Ask questions whenever you don't have a full understanding whether in lectures or working on your project.
4. Develop good relations with your group members as you will be with them for over 2 months.
5. Prepare yourself before starting LADSS by reading the literature review materials sent to you by your mentors.

Jessica Chan, Richard Yeong, and Eugene Lin, 2019

1. FIND HOUSING RIGHT AFTER YOU GET ACCEPTED. Housing is getting rarer and rarer in Los Alamos, usually people will live in someone else's house, there's Facebook, the LANL housing website, make sure you do this soon because they run out fast!

- A. If you can, make friends with people on the same school schedule as you (i.e. quarter or semester system) and look for housing together.
- B. If you know people who have worked or currently work at the lab, ask them if they have any housing contacts.

“Go outdoors! It's the only place where you can do fun stuff! Also stuff you will not be able to do when you get back home. New Mexico is a very very beautiful place, make sure you get your years' worth of sunshine! (before you retreat back into your sunless engineering life):

a. Things to do:

1. Kayaking (down Rio Grande)
2. White water rafting (down Rio Grande)
3. Trail running
4. Hiking (Blue Dot, Atalaya, Wheeler, Bandelier)
5. Jemez Hot Springs (Don't go to San Antonio, the springs are only lukewarm)
6. Valles Calderas (make sure you don't get stuck in a hail/lightning/rainstorm)
7. Nambe Falls (you can go down a waterfall here! And also do outdoors rock climbing!), Nambe Lake
8. Sardines at Meow Wolf
9. Mountain Biking
10. Rock Climbing at the Y every day after work
11. Group runs with other LADSS students
12. July 4th Fireworks at Overlook Park
13. Road trip! White Sands National Monument, Carlsbad Caverns (there's bats!), Very Large Telescope Array
14. (P.S. We are not athletic at all with a great emphasis, but you will be after going here, so great place to get fit!)
15. This also is a great way to get fit for Wheeler Peak, which is something commonly done with the entire LADSS group, and you will need to get fit for that!

NOTE: Make sure to ask Adam or Chuck (or any other locals working in the EI) about recommendations since they are very familiar with all the things to do in New Mexico.”

“Ask for help if you need it! Your mentors are here to help you, not judge you! Also, if you need better computers, do ask! It will make your coding life a lot easier!”

“If you are flying to New Mexico, I recommend flying to the Santa Fe Airport rather than the Albuquerque Airport. Taking an Uber from Santa Fe to Los Alamos is around \$60, which is significantly better than taking one from Albuquerque-around \$120. If possible, try to find someone (another LADSS student) who has a car and is willing to drive you to your accommodation. Also, the Santa Fe airport is really small and cute! (i.e. 1 TSA line, 1 check in line, you have to walk on the tarmac to get on and off the planes)”

“Monsoon season is prominent every summer in New Mexico. It is also the second state with the most thunderstorms shortly behind Florida. Make sure to bring some rain jackets, rain boots, umbrellas, etc. to keep you dry. Thunderstorms are scattered throughout the summer and typically occur 1-2 hours in the day, so be prepared for the worst. The lightning storms are magnificent! Just don't get hit by lightning while watching. Flash floods are not a joke here, when it rains, it will pour.”

“Take advantage of all the events that are organized for the LANL summer students sent via email (i.e. Students at the Park, ice cream socials, etc.). You get to meet and interact with lots of different people.”

“If you will not have a car during the internship, don’t let that deter you from going out and enjoying all the local events in Los Alamos. Here are some things to do in downtown:

1. Get some exercise at the YMCA;
2. Join the Atomic Swing Facebook group
3. Grab a cold one with the boys or/and girls at Bathtub Row;
4. Visit the Los Alamos Nature Center / Pajarito Environmental Education Center (It has beautiful sunset views!)
5. Make sure to grab a passport at the Los Alamos Nature Center and collect the stamps by going on each hike. You will be awarded prizes by completing a certain number of trails;
6. Check out the summer concerts held at Ashley pond every Friday night.
7. As you can see, most of the fun things are in Los Alamos if you do not have a car. While it is possible to live in White Rock not having a car, it is not recommended as there is literally nothing there.”

“Try to do things with your project team outside of work. Getting more acquainted with one another and bonding through after-work/weekend activities translate into positive vibes into your work environment.”

“Documentation is super important! I found personally that it was super helpful to keep a powerpoint presentation where I would write about the progress, issues I ran into, and how I resolved the issues at the end of each workday. It’s really good for reminding yourself what you worked on before as well as providing potential future LADSS students with a guide to what you worked on if your project ends up being extended to another LADSS year.”

“Using your teammates and other LADSS students as “rubber ducks” to talk through things that you are stuck on (i.e. code that refuses to work) is super helpful and will often resolve your problem much faster than if you try to troubleshoot the problem yourself.”

“Use your mentors as a resource but keep a good balance between spending too much time being stuck on a problem and asking your mentors right away when you run into.”

“Even if you've never hiked before, make sure to try it! Seriously, even if you're unathletic and from the big city like me. The rock formations are stunning, the mountains are beautiful, and the sunrises, sunsets, and starry nights are gorgeous. You'll get more and more in shape as the weeks pass if you do it right, and you'll have tons of fun along the way.”

“Bring / buy / use sunscreen. Trust me on this one. Hats are also great.”

“It gets pretty cold in the mountains at night, so if you're camping overnight there, bring a sweater, jacket, or blanket.”

“Santa Fe's a great place to go on the weekends - visit the Canyon Road art galleries, the cathedral, the town square, the restaurants, Meow Wolf, and the Violet Crown movie theater.”

“Make sure to try New Mexican dishes. I'm probably biased, as I love my Houston tex-mex, but the restaurants here and in Santa Fe are pretty great. Breakfast burritos are awesome here!”

“Split up the work / project with your teammates. No one of you can do the project alone, so work together! There are also plenty of opportunities for doing things together on the weekends = team bonding.”

“Spend the extra hour or two, before or after work, before the last week of your project -you'll thank yourself later.”

“There are tons of churches here. Go to one at least once - even if you're not religious.”

“You can swim at the Aquatic Center on Canyon.”

“Try rock climbing at the YMCA.”

“Go to the Friday night concerts. They're super fun, and the food isn't bad either – especially Jambo.”

“There's a magnificent bookstore at the Mesa Public Library. They have lovely vintage books you could never get elsewhere, for insanely low prices - 50 cent paperbacks and \$1 hardcovers!”

“Before you leave, try to arrange chats with people at the lab working on things you're interested in. (Ask Chuck if he knows anyone / let him know you reached out.) This is great if you're remotely interested in working at the lab again, and you could score a wonderful opportunity.”

“Work advice:

- Each day, determine what needs to get done and make objectives. Split those objectives into three so you can all work in parallel.
- Don't waste too much time on the mini-project.
- Start writing the paper early! Work on in little-by-little throughout the summer. You should be able to write the background/intro after the second week, methods after about the 4th/5th week, and then the results whenever you get them.”

“Have fun! It's honestly hard not to.”