Handbook for International Research Collaborations

Authors:

Emily J. Chua
Hannah N. Beck
Ashley B. Cohen
Chelsea L. Hintz
Eilea R. Knotts
Marina Lauck
Trista McKenzie
Angelique Rosa Marín
Keiko W. Wilkins
Matthew S. Woodstock

Last Updated: August 2020

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Anecdotes

Limnology and Oceanography Research Exchange (LOREX) is an NSF-funded initiative (award #1831075, 2019-2021) to provide training in international research for graduate students. In this section, we share some brief stories from the first cohort of students.

Emily Chua

"Experience is something you don't get until just after you need it": Steven Wright could well have been describing my shipping fiasco when he quipped this gem. The week before I embarked on my research exchange from Boston University to Dalhousie University (Canada) in late May 2019, I packed up my lab equipment in a couple of Pelican cases and sent them on their merry way via FedEx Ground, thinking that we would arrive north of the border at roughly the same time and I could hit the ground running. This turned out to be (almost comically) not the case; the packages ended up being stalled in a warehouse in Syracuse, NY for nine days while I, my collaborators, and Dalhousie's customs brokers tried to figure out what the hang up was. Ultimately, we ended up having to turn the packages around and send them back to Boston (meaning that $800 and 2.5 weeks were wasted while my equipment made a pointless round trip from Boston to New York)—the alternative would have been paying nearly $3000 in ~~ransom~~ customs clearance fees, since FedEx Ground is not a licensed in-bond carrier (see Chapter 2). Fortunately, my advisor was able to bring the packages on her flight as check-in luggage when she visited Dalhousie in mid-June. Although this was an incredibly frustrating experience, I didn't let this unexpected bump in the road completely derail my exchange, and used the initial weeks *sans* lab equipment to plan and prep for experiments in person with my collaborators. Moreover, it serves as an example of what *not* to do, so that readers of this handbook will hopefully avoid a similar experience.

Matt Woodstock

As a computer modeler, my work requires sitting at a desk and typing code as an attempt to simulate "realistic" ecosystem processes. It is easy to go down the rabbit holes of "am I incorporating this process", or "have I parameterized this variable correctly". The end result often ended up with hours of banging my head against the wall, redoing each process to try to find the best solution towards my problem. While in Dalhousie, I was on a restricted timeline of 6 weeks to complete all of my work, and did not have the luxury to waste time. I needed to create a method to work through problems more efficiently. I took a page out of Robert Frost's playbook and "took the road less traveled" by developing a creative, fluid workflow that changed on a daily basis. If there was a problem I was stuck on, I grabbed a pencil and notebook, stepped outside, and began walking in a random direction. I explored walking trails, public parks, and a large portion of the city of Halifax. During my daytime adventure, I would let my mind wander, but my thoughts always circled back to my work. Except this time, instead of frustration setting in, I was thinking of creative ways to solve problems. Once I felt that my solutions were sufficient, I would return to my desk, and (hopefully) solve the problem. The end result was a successful research project, healthy collaboration, and a new workflow that has been beneficial after my research experience in Dalhousie ended. The bottom-line is, don't let yourself get trapped into wasting large amounts of time on small problems. Be creative, let your mind go, and create small adventures to solve large problems.

Keiko Wilkins

After traveling with 3 other members of my LOREX cohort to our research facility at Southern Cross University (Lismore, Australia), the first day was spent getting to know our way around the city and familiarizing ourselves with the lab spaces and aquaculture facilities. On our second day (Saturday) we decided to start preparing 4 large coral tanks for our experiment. We had turned on the flow-through water system in all 4, thoroughly cleaned the leftover algae and leaves from the bottom and began to fill them up to test out our experimental design. I was working on setting up our water heaters when my collaborator came running up the stairs from the basement in a hurry. She said "Keiko, there is something very dramatic happening in the basement, you have to come and see". My first thought was "what does she mean by dramatic?". Well sure enough, what I saw was very dramatic. While looking for more supplies, my advisor had found that our 4 large coral tanks were draining into the same drain which was then leaking through the ceiling and into a room in the basement below. After a few minutes of panicking, we turned off all water and came up with a plan. With it being a weekend, nobody was around to help us. We called the director of the facility and left a message. We were told that this happened from time to time and that sending someone to fix the problem probably would not happen until after our experiment was complete. Without use of the flow through system, we wouldn't be able to maintain the temperatures we needed for the experiment. The temporary solution to complete our experiment would be to re-do the plumbing of one side of the entire aquaculture center and divert all water into a new drain that could handle the large amount of water better. We spent our third day finding, cutting and fitting new pipes to our coral tanks and by the end of the day we had become engineers with a successful reassemblage of the aquaculture center's piping. Moral of the story: be flexible, be calm.

Trista McKenzie

Returning home from Australia was an absolute nightmare. I had planned to bring several types of samples back with me to analyze at my home institution and it was recommended by my host to bring the samples back as checked luggage. I carefully packed the samples in a cooler, as some of the samples needed to be kept frozen, while others needed to be chilled. My host was coincidentally driving down to Sydney the morning I left, so he offered to drive the cooler down and meet me at Sydney Airport. I thought to myself, "This is great - my samples will only have to go on one flight (Sydney to Honolulu) rather than connect from Coffs Harbour to Sydney to Honolulu, meaning the chances of anything happening to them are near zero." After an uneventful flight from Coffs Harbour to Sydney and with my sample cooler in hand, I figured the hardest part was over. That was, until a sequence of events happened. First, my flight to Honolulu (which was supposed to leave at 5pm) got delayed until 1am, and then cancelled due to plane maintenance issues. The airline put us up in a hotel and told us they would be sending a shuttle at 5am. I had my cooler back in hand and debated if it was worth trying to stuff some of my samples in the hotel mini bar, but elected not to break the seal of the cooler. Not off to a great start. With four hours of sleep, day two of trying to get home was just as nerve wracking as the previous day. The flight was once again delayed, but after hours of contemplating if we were going to be actually flying out that day, we boarded and took off. I thought the ordeal was over, but I was wrong. We landed in Honolulu at 3am, and I waited patiently for my sample cooler at baggage claim - it never showed up (and of course I was already worried about my frozen samples given how long it had already taken to get home). In short, it took *five* days for my cooler to arrive in Honolulu and I had no guarantee that it would get there at all (at least twice in the days prior the airline told me it was absolutely on the

plane and would be in Honolulu in the morning - and it wasn't). I did lose my frozen samples as a result (they were completely thawed), but fortunately was still able to do analysis on the chilled samples. Despite all of this happening, I was able to complete a successful research project and one of the grants I received to fund some of the work on the project allowed me to repurpose the funds for the frozen samples for something else. The major takeaways from this story are that things will work out (somehow) and that flexibility and keeping calm are essential skills during your exchange as some things will (~~most likely~~ definitely) not go as planned and that's okay.

Hannah Beck

My LOREX experience happened within my first year of graduate school. In less than 12 months, I wore three very different hats: an undergrad counting microplastics in the campus stream, a seasick grad handling big equipment on an oceanographic research vessel, and an American student alone in Sweden with more suitcases than she ever wants to see again. Just as I was getting the hang of streams, I ran full-tilt into the ocean. Just when I was wrapping my head around oceanography, I did a complete about-face and told LOREX I wanted to study lakes! I had never planned my own project before, I had never been to Scandinavia, and I had never even talked to a real-life environmental scientist who wasn't already my professor. So, by the time I was nailing down details with my collaborator in preparation for my trip, I was fully aware that I had no idea what I was getting into. I had already been living in a constant state of surprise and was all too familiar with the futility of planning for catastrophe. All of my "rolling with the punches" muscles were already buff and warmed up.

Thankfully, my collaborator had an identical mindset. We agreed ahead of time to *not* create a schedule, pick out study sites, or assemble a detailed sample plan until I was already there. And I'm *so glad* we did it that way! Looking at calendars, maps, and materials was so much easier in person, and what would have taken us weeks over email was a single afternoon at the same table. Additionally, several problems that we couldn't have prepared for popped up on Day 1, and this approach let us build our schedule around them instead of starting the project already stressed and behind. Planning to not plan was the best choice we could have made for a smooth project!

This doesn't mean I didn't do my best to prepare ahead of time. I packed a lot of extra materials and equipment to make up for our intentionally flexible schedule, most of which actually ended up coming in handy. I know this approach would *not* work for everyone. But if you feel that staying flexible is the best way to be proactive about roadblocks (and your collaborator agrees!), remember that "under-planning" is a valid plan sometimes, too.

Eilea Knotts

I had entered the "halfway" mark in my international collaboration of six weeks and nothing was going according to plan. When you are on such a short time scale, anything and everything can and will go wrong. My phytoplankton (i.e., diatoms) were struggling to stay alive in the artificial seawater at Dalhousie University. We tried a bunch of tactics to get them to grow but to no avail. I couldn't start a single experiment because of these issues. These growth issues were distressing because I was completely ready to go, and these experiments were a good portion of my research project!

Luckily, I had a great collaborator at Dalhousie University. Dr. Finkel and I sat down together, and she gave me great advice. "Keep calm, keep a positive attitude, and just keep moving

forward." I would get done however much I could get done in the time I had. Or in other words, "what will be, will be" or "no use crying over spilled milk".

By that point, we knew it was too late to resurrect the phytoplankton, so we decided to focus on the modeling part of my project. I think the best idea I had was – to make sure I had two projects to work on in case one did not go according to plan. The moral of this story is to prepare for things to go wrong and have a contingency plan. And no matter what, "just keep swimming, just keep swimming."

Chelsea Hintz

I was told Abisko, Sweden was rural. That might have been an understatement. Abisko is *very* rural. Rural specifically meaning – there are 80 people in the village, one grocery store (1/3 of which is candy), one gas station (that ran out of gas twice in the eight weeks we were there), and one restaurant. But it is also beautiful in the summer, surrounded by a lake, mountains, and the midnight sun. This ruralness is a blessing and a curse. It means the streams I wanted to study are minimally impacted by development which is wonderful for research but it also means that getting large field equipment to field sites can be difficult. The original research plan my collaborator and I developed was to use four large automated water samplers that are powered by a car battery. My plan was to hike this equipment into the mountains surrounding Abisko and collect stream water every three hours for four weeks straight and to visit the samplers on a weekly basis to collect samples. Needless to say, this was impossible. My collaborator and I both underestimated how difficult (impossible) it would be to get this equipment to the streams and to maintain them. The difficulty resulted from the sheer size of the samplers, the difficult terrain (no trails, no roads) and not enough people or time. This revelation happened mere days before I was supposed to begin sampling and could have been a very stressful, anxiety-inducing addition to an already novel and somewhat stressful situation **but the mindset I chose to have when I began my LOREX experience was to be flexible and recognize that there are going to be unknowns.** This mindset was essential and a tremendous help for me in getting the most out of my LOREX experience. So, now my research plan had to change. In working with my collaborator, we developed a Plan B, I was still able to answer the same question just in a modified way. Now I would be doing that 24-hour sampling by hand for a 3 day period at each of the field-sites. This also meant that I got to do a lot of beautiful hiking and camping that I would have otherwise missed out on if my samples were being collected automatically (silver lining!). The mindset of being flexible was repeatedly helpful throughout my 8-week experience, and not just when it came to research. It was beneficial when it came to making large plans as a group, living at a field station, living with new people and cultures, and collaborating on research and it is my best piece of advice to future LOREX students.

Ashley Cohen

During the critical last two weeks at the Interuniversity Institute for Marine Sciences (Eilat, Israel), the only centrifuge with the correct (not widely available) tube-holder size broke. I had a large backlog of samples to chemically process and could not afford to wait until it was fixed. Initially, I completely panicked. If I did not prepare the samples, there would be no way to have them ready to ship by my departure date. No one else in my host laboratory knew the procedure such that they would be able to do it in my absence. By panicking and being unable to think clearly for a couple of days, I was not only unproductive in my other work, but I wasted time and energy that could have been used to figure out an alternative. Eventually, I went to my host and made them aware of it.

Once I let them know what was going on, they were able to get me out of my own head. We sat down together and tried to go through the problem step by step, to see if there was any way to solve it with the resources we had at hand. I was able to borrow a rotor for a different centrifuge and make size-adaptors out of aluminum foil and centrifuge tubes so that my sample tubes were able to snuggly fit and not move. The moral of the story is: when you feel panicked because your original plan fell through, especially in a time crunch- take a deep breath, talk to your host, and the rest will fall into place.

Angelique Rosa Marín

Coming back from my field work, I needed to stop by the gas station to fill the tank of the rental car that I was using. The pump-system was very different to the ones that we have in the U.S. In the pump, you put the specific amount of money that you want to fill with gas. However, I did not know how much was good enough to fill the whole car gas tank. So, I was testing. I was putting $ 10 by $ 10, and it was working. I noticed a lady walking through the gas station. She looked at me and she kept staring at me, it made me feel very uncomfortable. I just keep looking at her as well, with the same intensity trying to show her security. I finished filling the gas and I went inside of the store to pay for the gas. The lady was there, paying for some stuff and as soon as I took out my credit card to pay for the gas, she aggressively asked me *"Where that credit card come from"*. Her tone in her questions was aggressive. I replied to her: "*Where do you think?"* She looked at me like I was a disgusting "thing", and then said: *"I don't know, that is why I am asking you?"* I did not say anything else, I just kept doing what I was doing, which was trying to pay for the gas. She seemed very agitated, but I ignored her. I decided to put more energy in the situation. Seconds later she started to yell at me. She was saying rough stuff about my persona and America itself. However, at some point I mute her in my head and I was just hearing… nothing, nonsense. Take home message: be aware that you might not be welcome in all places in your host country. Be strategic, patience and smarter!

Chapter 1: Initiating a Collaboration

Searching for a collaborator

We understand that searching for a potential collaborator can be overwhelming at times. Especially with access to the internet, the list seems endless. Below we have given suggestions on how to focus your search.

Finding your collaborator

Before starting from scratch, you should **reach out to any connections you might have. Do you have any sort of connection via your advisor or other friends?** This can be incredibly valuable, especially if you have a connection to someone at your desired host institution. Take advantage of any networks that already exist between your advisor and potential collaborators. You never know where they may lead. **Do you know anyone who may have read or downloaded your work?** For example, ResearchGate can be a great tool to explore who has been reading your work if you follow them. **What about the researchers that you have met at conferences?** Everyone likes to say, "Networking is everything," and now you know why. Finally, begin to investigate more broadly. **Who has been published in your specific field recently?** You can then search for these scientists using the famous skill of "googling". Scan each researcher's keywords or broad research topic sentences. If you think there is even a slight connection, take note!

> "*I initially contacted someone I knew/had worked with before. He suggested that we also work with another researcher (whom I hadn't met before), who was super enthusiastic, and who also suggested another PI. In the end, I found myself collaborating with three research groups, which benefitted my project as I was able to draw on each of their areas of expertise.*" ~Anonymous

LOREX-Specific Resources

For LOREX, ASLO provides a list of potential collaborators for each host institution. However, it is important to note that this list is NOT EXHAUSTIVE. Additionally, you can investigate potential collaborators and mentors using the LOREX mentorship platform, Qooper, but access is restricted currently to already-selected participants in the program.

Contacting your collaborator

Once you have selected a colleague(s), reaching out to these collaborators can be intimidating. This section provides the framework to begin the conversation.

Starting the Communication

Yes, most of the time, the easiest and quickest way to begin a communication path is to email your potential collaborator. This initial form of contact can be described as a **"cold call"**. The purpose of an email is to **engage the researcher in a conversation about your research and the idea of a**

potential collaborative project. It is important to remember that the project does not need to be firmly decided or "set in stone". There is plenty of time for the proposal to be revised and altered with your collaborator's guidance. The idea is not a binding contract! While you may want to try to follow the proposed game plan, unexpected things will likely happen (in both good and bad ways), so **be prepared to be flexible**.

Establishing a connection can be daunting. To ease into the process, it can be extremely helpful to **have a project idea (a few sentences) in your initial email** to potential collaborators. This initiation can serve as a conversation starter, but also, if it really isn't a good fit for the host lab, you can know upfront and develop a different project (hopefully with the same collaborator!).

> "*The original idea I proposed was really similar to what one of their grad students was working on so we developed an alternative*." ~Anonymous

Example of Email Outline

1. Brief summary of who you are.
2. Brief summary of what your research interests are.
3. Consider attaching your CV.
4. Provide some examples of possible collaboration ideas you have
5. Thank them for their time (or consideration) and express your hope to discuss collaborative opportunities.
6. Have an email subject line that briefly and concisely states what you want.
    a. "ASLO LOREX - Collaboration Possibility/Intent"
    b. (Insert Topic) - Questions and Possible Collaboration

Follow Up

Make sure to **keep in contact** with the international researchers if they agree that a collaboration would be beneficial/possible between the two (or more) of you. If they **haven't responded in 2 weeks, reach out again**. Keep in mind that 1) people are busy, and 2) emails occasionally get lost. You must be persistent! Your determination shows you care and are invested, and will probably impress (rather than annoy) your collaborator.

Accepting Rejection

Don't take a rejection to collaborate with you personally. Acknowledge that sometimes the **research idea isn't a good fit** between potential collaborators. Their schedules **may not have the time** to fit the project in (e.g. they may have their own grad students they want to or need to prioritize). They **may not have funding**. If they don't want to collaborate (for whatever reason), it may be best to not go down that path, but you can ask them to suggest someone else at their institute.

Lab Dynamics

Now that you have been accepted into joining an international lab, getting to know your collaborator and their lab group is important. Lab dynamics can be different from our home-lab. In this section, we provide some insight about potential scenarios and questions to consider.

Getting to Know Your Collaborator

In preparation for joining your new lab we suggest scoping out your collaborator's webpage, publications, and Twitter (if they have one). This will give you an idea of what they and their current students are working on and give insight to what equipment and facilities may be available. Also be sure to ask if there is any required training you need to be aware of when you join the lab.

Who Brings What

Your project has now been developed. Now, you begin to plan what you are going to be doing on a day-to-day basis. Questions you should be considering - 1) **What do you need to pack and what is your collaborator providing?** 2) **What will your schedule look like? Do you want (or need) a daily schedule or is a week-to-week plan enough?**

Every researcher has their own method for how they plan. However, when it comes to international travel, there is one key practice - **do NOT procrastinate**. Work on creating your schedule and packing lists early. Check out **Appendix C for examples of research plans and daily schedules**, and look at **Appendix D for supply list examples** in deciding who is providing what supplies.

Work Hours

Don't hesitate to ask what the researcher's work hours are. There can be **cultural differences** (e.g., breaks, work/life etiquette) to take into account. It is always best to know what **expectations** are (from both sides) up front.

If other students are in the lab/field, ask them **what work hours they observe**. This can be important if you need help during your research project. Not having anyone around to ask even a simple question can hold you up.

Policies and Procedures

Before Collaboration Begins

Make sure to reach out to your collaborator to **ask what their policies/procedure are and then familiarize yourself with their processes**. Is it essential to have a phone plan in your collaborator's location? This question could be critical to staying in touch with the lab for logistical and safety reasons. Along this line, make sure you have a record of important phone numbers and that you are added to key listservs.

During Collaboration

Follow their procedures as provided. This may include inductions (e.g., safety exams).

"Southern Cross University Lismore and Coffs Harbor had these." ~Anonymous

If there is a discrepancy between what you typically do and the collaborator's procedures, **ask for guidance**.

And don't forget to **stay in touch with your own advisor**. **Keep everyone (your advisor and host) updated with your progress** even if you don't feel as though you've made any.

Once you are there:
Check out this GradHacker post on getting started in a new lab. Pro tips include the following:

1. Have someone show you around (how to get into the building, where other labs/offices/bathrooms/coffee room are)
2. Find out what safety courses you need to take, and get them out of the way as soon as possible, ideally prior to travel
3. Figure out what you will need (keys or badge cards, a computer, a desk and chair, an internet password, PPE)
4. Find out your milestones and obligations (e.g., lab meetings, journal club, social hours)
5. Make friends with administrative staff and technicians
6. Carefully observe the lab culture (e.g., what are the shared chores?)
7. Figure out what you need to learn, who can help you, and ask before touching anything
8. Make yourself useful (notify tech if supplies are running low; re-make buffers; clean up)
9. If you don't know, ask!

Lab Logistics

Asking for guidance or for information can be one of the most critical parts of a collaboration. There is a lot of knowledge you don't know so make sure to cover your bases. This can include **asking specifically about lab equipment and lab space**.

1. Where are the lab spaces?
2. Is space and equipment open for anyone to use at any time? Does it need to be reserved?
3. Are there pieces of lab equipment (or field equipment) that you should not use?
4. Do you need to be formally trained to use any lab equipment?
5. Who do you contact if you have technical difficulties?

Be aware that you are probably not going to be the only one in the lab or the field. **Take advantage of the other graduate students present at the host institution**. Their insight into the workings in the lab or in the field can be very helpful. But, be aware that they have their own projects they are trying to make progress on. Finally, make sure to ask about **any ongoing experiments** so that you don't mess up anyone's research.

Leaving the Lab

At the end of your collaboration, **make sure you left lab spaces as they were found**. This may include **checking with someone** (PI, lab manager, grad student) to make sure you have done

everything you need to do when leaving the lab. And remember to say, “thanks for having me,” to the PI and lab you were part of. If you have extra supplies that you do not need, it is nice to leave them behind for the lab to use (as long as you confirm that with your collaborator), and it may be cheaper than shipping them back.

Chapter 2: Transporting Scientific Equipment & Samples

General Information

This information is relevant regardless of where you are traveling to. If you need to bring equipment and/or samples for your research exchange, please read through this section carefully, as it will likely save you a lot of hassle in the future.

Communicating with your collaborator: Checking in about what you need to bring and what they already have (including quantities) will be essential. If supplies are being ordered and shipped to the host institution, you should confirm how far in advance you need to order things, where you should have things delivered, and if someone will be available to receive them (if needed). Determine whether you can do your sample analysis at the host institution (either at the time of the experiment or with the help of someone else at a later date) or if you will be doing all analysis at your home institution. If you will be leaving samples at the host institution, you have the benefit of not having to travel with samples! If you are bringing samples with you, consider asking if you can leave a set of samples with your collaborator as a failsafe (e.g., if your samples get tossed by customs). Additionally, you should clarify upfront who will be paying for shipping; this is for budgetary reasons and could inform shipping methods choices (say if a university works with a specific carrier).

To ship or handy-carry? If you decide to ship, see **Section 2** for specific details. If you decide to hand-carry or take as checked luggage, see **Section 3**. We recommend doing a price comparison between shipping companies and carry-on/checked luggage. You can get price estimates and timelines online from shipping companies based on the size and weight of the package you want to mail. The same is true for airlines regarding the price per checked luggage, extra weight, size or pieces of luggage. Most of us found that it was quicker and cheaper to bring our equipment via checked baggage.

Considerations for deciding whether to ship or take with you:

1. How far you will have to travel with all of your luggage if you decide to check your equipment at the airport (e.g. How long are your layovers? Do you need to travel to a hotel? Will you have to take public transportation where storage may be limited?).
2. Consider the remoteness of the host institution. If the host institution is very remote, it may be difficult or impossible to ship equipment via commercial shipping. You could consider shipping to/from a bigger city.
3. How perishable your samples are and what will happen if things get delayed if you decide to ship equipment/supplies (i.e., do you need to use dry ice or will ice packs suffice?).
4. Confirm that you are allowed to bring it on a commercial flight. This can be checked on the TSA website if you are flying to/from the US. Get import/export permits in advance if needed.

Some members of the LOREX 1 cohort conducted their research at Abisko, a remote field station in Sweden. Instead of trying to ship things directly there, they went through Umeå, a larger city.

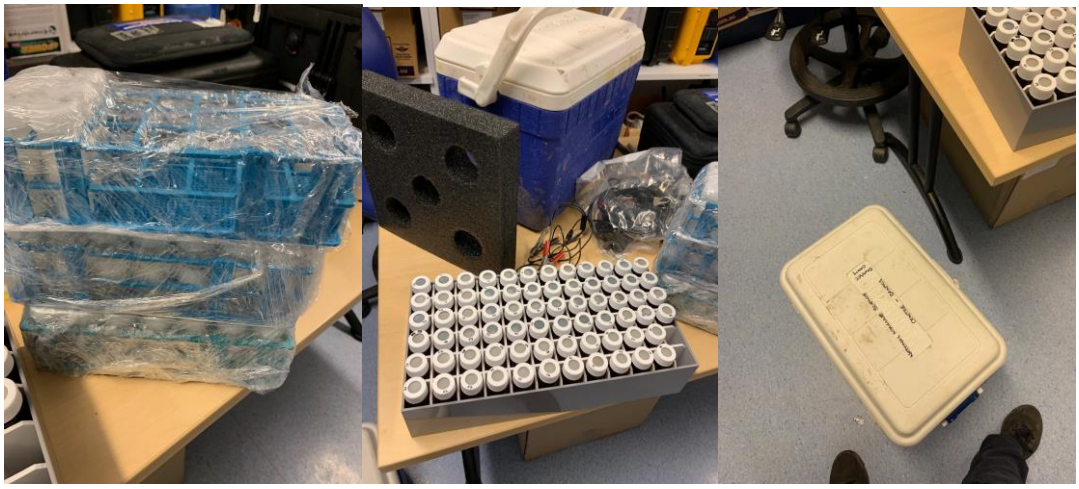
General letters, permits, forms, & documentation: It might be helpful to have an itemized list of package contents. This can be helpful if airport security wants to know what is in your luggage without having to open and remove items (hopefully!). You should determine if a **permit** is necessary for your sample type. Water samples may not need a permit, while soil samples definitely wil. Dated **letters** from your home or host institution on official letterhead can be beneficial and give your luggage legitimacy (if needed). We recommend letters contain the following:

1. Advisor/collaborator names, contact info, and signatures
2. If you are transporting samples but they are not biological in origin, the letter should explicitly state why they are not biological (i.e., geological samples no commercial value)
3. If you are transporting **biological samples**, the letter should state the steps you have taken to ensure that the shipped materials are non-living or sterile (or have the needed permits and prepare to spend some time in the USDA inspection upon entry to the USA).

"No one really questioned my samples (water) coming back - which I was surprised by given both Australia and Hawaii are pretty strict with biosecurity." ~Trista (Coffs Harbour, Australia)

Packing tips and tricks:

1. Make sure to include your contact info on each package.
2. Find out what the package weight and dimension limits are for your chosen transportation method and utilize a luggage scale if needed. Domestic airlines can be particularly picky about weight restrictions.
3. If you are somewhere remote, packing supplies (coolers, ice packs, tape, etc) may be limited, so bring your own if possible.
4. Super useful things to bring: saran wrap, zip ties, tape, sharpies.
5. Packing best practices:
    a. If you have fragile equipment, you can use your clothes to cushion the equipment.
    b. Make sure all sides of your package are cushioned -- things will get turned upside-down during transportation.
    c. Triple-packaging: 1st container = sample tube, 2nd container = sample tube box, 3rd container = rigid styrofoam and cardboard box.
    d. Use leak-proof vessels and absorbent materials if shipping liquids.



Example of packing samples to carry home as checked luggage. Samples were put in trays and then wrapped with plastic wrap to limit movement during transport. Then bubble wrap and foam padding were used to fill the gaps in the cooler along with ice (tape the cooler shut once you're ready to fly). Not shown: you can also take a piece of foam and cut holes in it for your bottles for safe transport.

> *"The field station in Abisko is large and very remote with lots of researchers coming and going so any packing supplies left by previous groups are fair game but can be variable and may be used quickly."* ~Hannah, Marina, and Chelsea (Abisko, Sweden)

Transporting chemicals: Check with your collaborator what chemicals they have available and what they have disposal protocols for. They will likely have an idea what chemicals are ok to transport into their country or not. Confirm chemicals can be brought onto a commercial flight.

> *"If you are ordering supplies to ship to the lab in Australia, order them at least 1 month in advance of your arrival - again, customs can take a while."* ~Trista (Coffs Harbour, Australia)

Customs & labeling samples: Avoid labeling sample containers with anything that sounds like it could be a threat from the viewpoint of a CDC or CBP (**Table 2**) officer. Put yourself in their shoes. They are trained to protect the US from the transfer of foreign agriculture and diseases. Avoid referring to samples as "soil," "dirt," or "sediment." From a CDC or CBP officer's point-of-view, these are keywords that alert them to a potential agricultural soil threat (**Table 1**). Marine or lake sediment of course is not agricultural soil, and samples are usually *not* live (frozen/fixed,etc.). It is best to refer to such samples as crushed rocks or minerals. This is what they are by textbook definition! When in doubt, talk to your collaborator. Samples and equipment can be delayed for weeks if they are held by customs (regardless of whether you ship or hand-carry).

"I used a random alphanumeric key on my sample tubes to avoid writing out full sample names, and my package was held because one of the leftover unused tubes was labeled "K9," which could be misinterpreted as a biological specimen." ~Ashley (Eilat, Israel)

"Shipping can take weeks to/from Australia because it gets stuck in customs. I've personally had samples shipped to Australia from Hawai'i with proper permits ("sterile seawater", not even that exciting) take 1 month to arrive at the lab because they sit at customs for 3 and half weeks. To illustrate how crazy Australian customs is with shipments, I had to get a replacement credit card while abroad and my bank sent it via expedited shipping, but it still was stuck in Australian customs for a week and a half." ~Trista (Coffs Harbour, Australia)

Table 1. Words you should avoid using at customs, and words you should use instead.

Words to Avoid	Safe Words
Microalgal samples	Seawater
Dirt/soil/sediment	Sand
Powder of a regulated chemical (tiny quantities only)	Salt standard
Liquid/solution of a regulated chemical (tiny quantities only)	Mineral solution

Table 2: Commonly-used Customs acronyms

Acronym	Meaning
CBP	US Customs and Border Protection
CDC	US Center for Disease Control
CBSA	Canada Border Services Agency

Shipping

If you have decided to use a carrier to ship your equipment and/or samples across borders, there are country-specific rules and regulations you should familiarize yourself with. At the moment, we only have specific information for travel to Canada. In addition to reading through this section, it is also a good idea to reach out to other colleagues and research groups who might have helpful

experience with shipping things across borders. Please refer to the General Information section for our recommendations regardless of where you are going.

Australia

Forms:

Clearing Customs: Customs is entirely electronic now -- there is no human interaction. After you clear customs, you will have to clear biosecurity and declare any relevant items (food/hiking gear with dirt/etc.)

Helpful Resources:

Canada

Forms: Contact your home and/or host institution's shipping and transportation office. They will fill out two forms:

1. Electronic Data Interchange (EDI) Exceptions Lead Sheet
2. Canada Customs Invoice (CI1)

Clearing Customs: Make sure you select an appropriate carrier for shipping across the border; we recommend FedEX International and DHL. **Do not use FedEX Ground** -- they are not a licensed in-bond carrier and cannot process goods through as temporary entries.

Helpful Resources:

- International shipping terms and definitions (as described by FedEx)
- Carrier-specific policies for shipping **biological samples**:
    - UPS
    - FedEX
    - Other sources

Israel

Forms: Temporary entry of U.S.-made goods is possible with an "ATA Carnet" issued by a U.S. Chamber of Commerce or through payment of a deposit, reimbursable upon re-export.

Clearing Customs: We recommend FedEX International and DHL. If you are shipping equipment, you will require a temporary importation form to bring the goods into Israel, and to show that you are taking them back with you (i.e., not leaving them in Israel) when you depart.

Helpful Resources: https://santandertrade.com/en/portal/international-shipments/israel/customs-procedures

Sweden

Forms:

Clearing Customs: If you use FedEx in Sweden, **do not use dry ice**. It won't make it through customs.

Helpful Resources:

Hand-carrying

Here we describe the country-specific rules and regulations if you are personally carrying your equipment and/or samples (e.g., by car or airplane). At the moment, we only have specific information for travel to Canada. Please refer to the General Information section for our recommendations regardless of where you are going.

Australia

Forms:

Clearing Customs:
Entering Australia:

Helpful Resources:

Canada

Forms: Below is a list of required paperwork for hand-carrying equipment/samples to Canada. You will need to print out all of the following forms (see filled-out examples of Canada customs forms in the Appendix). We recommend keeping everything together in a binder/folder.

1. **E29B Temporary Admission Permit**
   This is the most important form you will need as it indicates that the equipment you are importing over the border will only be there temporarily (with a **definitive exit date** that they will press you on at the border). We recommend just attaching a **spreadsheet** with all of the information for the full packing list that they ask for in the form. Check with the customs office at your home or host institution (if one exists) if they can help you to fill out this form.
   Important notes:
   - They need estimated values for the equipment in CAD not USD.
   - Check Memorandum D8-1-1 for the relevant code to input in the "Authority" field.

For example, **95-132** is for “Scientific Expeditions”. This means that your gear is coming through for a scientific purpose and is thus exempt from entry taxes/deposits. This is super important. You will be required to pay a 5-10% total value deposit on the goods you are temporarily importing that you will be refunded with soon after you leave the country. If they ask you where this number comes from it is “**Memorandum D8-1-1**”.

2. **Canada Customs Invoice (CI1)**
   Check with the customs office at your home or host institution if they can help you to fill out this form.
3. **Electronic Data Interchange (EDI) Exceptions Lead Sheet**
   Check with the customs office at your home or host institution if they can help you to fill out this form.
4. **Letter from your collaborator**
   This should be addressed to “To whom it may concern” saying what you are doing, where you are staying, for how long, etc. with contact info for that person (email and phone).
5. **Letter from your advisor**
   This should indicate who you are, that they are okay with you taking their equipment, and their contact info.
6. **Printed out brochures/manuals**
   These should be for anything that you are taking that is not something that you made. These will likely not be asked for but by the letter of the law, could be so make sure you’ve got them all.
7. **Receipts**
   These should be for everything that you are bringing (as many as you can reasonably find showing proof of purchase in the US by your lab/institution). These will likely not be asked for but by the letter of the law, could be so make sure you’ve got them all.

Clearing Customs:

Entering Canada: You *will* be stopped by a **Canada Border Services Agency (CBSA)** Customs Officer at the border, either when crossing a land border or flying in. Be sure to be very upfront about what you are carrying over the border. We recommend telling them right away that you filled out the E29B form and it is ready to be checked by an officer. The CBSA will stamp the paperwork in order to clear the goods into the country. You should send scanned copies of the stamped documents to your host institution.

Leaving Canada/Entering US: Before leaving, you must notify your host institution, so that the temporary paperwork (the stamped documents) can be cancelled before the goods leave the country. Before leaving, you must also check in with the **Canada Customs office** so they can close your specific E29B account. Otherwise they will charge you both standard GST, duties, and will come after you for penalties. To do so at a land border, park at the CBSA office and go inside (will be just before the US border kiosks). At an airport, check in landside before going through security in case there is not a procedure for “Exiting Canada” with CBSA officers before getting to the boarding area. ***Make sure you get there with plenty of time to spend doing this*.** When you

get to the US border show them the stamped and closed E29B form so that they see that what left the US for Canada has now left Canada to return to the US.

Helpful Resources:

Israel

Forms:
None required.

Clearing Customs:
If you are planning to hand-carry supplies, be mindful that:

1) You should *not* carry any liquid supplies or reagents, even if they meet the carry-on liquid volume requirements. There is a high probability that you will not see them again.
2) If you have electronics or any sort of power supply, anticipate that the bag will for sure be opened and inspected.
3) Dry non-reagent supplies like filters, microfuge tubes, and Falcon tubes are generally fine. Do not pre-label anything. The labels can cause confusion/result in further inspection or detainment of the luggage.

Helpful Resources:

Sweden

Forms:

Clearing Customs:
Entering Sweden:

Leaving Sweden/Entering US:

Helpful Resources:

United States

Forms:

Clearing Customs:

Entering US: Entering the US as a US citizen will be pretty painless. All customs work is done on kiosks. ***Be advised that if your checked luggage has been flagged/held by customs for inspection***, you will not be able to claim it by a routine airline lost luggage claim (but you should still fill one out at the destination airport for record keeping). Border protection will contact you or the official contact listed for your program by email (if they have purchased your flight ticket). Once the officer handling your case has cleared the luggage, it will be classified as cargo rather than luggage, and your luggage ID from the airline will be replaced with a Post entry number and an AWB number. Therefore, at this point, *the airline will not be able to track the bag with the original luggage ID*. You will need to contact the airline's cargo warehouse at your destination airport and arrange for the luggage to be flown to the airport nearest to your home. The bag will need to be picked up in person from that airport with documentation stating that there are no taxable items/unaccounted for fees etc. associated with the luggage because it is not truly cargo but re-identified personal luggage.

Helpful Resources:

Chapter 3: Visas and Forms

General Information

Insurance (travel, health, etc.): First check with your U.S. health insurance company/home institution to see if they will cover you while abroad (you may need to call the number on your health insurance card or check with your advisor or travel liaison if any additional forms need to be filled out). If you don't have coverage abroad, then you should purchase travel insurance. Recommended travel insurance companies include:

- Travelex Insurance
- Generali Global Assistance
- TravelInsurance.com

Some universities require students to register and report their travel plans, you need to check with your university and make sure you follow the guidelines (see for example: https://risk.ucsc.edu/manage-risk/travel/index.html https://its.ucsc.edu/security/travel.htmlhttps://its.ucsc.edu/security/travel.html

Travel restrictions: Check with your home country's embassy or travel to make sure there are no restrictions or bans. Look at Appendix E for useful links.

Australia

Visas and study/research permits: Apply for a **Temporary Activity Visa (Research activities, subclass 408)** through the Immigration (IMMI) system. These cost $310 AUD (covered for LOREX participants) and are generally approved within 1-2 months (it may be approved in as little as 1 week). For this visa, you will need the following documents:

- **From the Australian institution:**
  - Letter of invitation
  - Sponsorship obligations letter
  - Sponsorship approval notice
- **From your home institution:**
  - Letter acknowledging the invitation from the Australian university
- **Other documents:**
  - Proof of adequate health insurance coverage

Insurance: You will need some form of proof of health insurance coverage for your visa application, so you will either need to confirm you have health insurance coverage abroad with your US-based insurance or purchase travel insurance. If you are doing fieldwork, you may need to provide additional proof of health insurance coverage AND liability coverage from your home university to Southern Cross University.

Additional Forms: Fill out any forms from Southern Cross University (SCU) before you arrive to make it easier (these will be provided for you in advance, if needed). SCU-Lismore had a lot of forms to fill out because you will be added to the system as students (and will gain access as if you

are a graduate student enrolled at SCU). There weren't any forms required in advance for the National Marine Science Centre.

If you plan to dive make sure what are the certifications needed for SCU and make sure you have your diving insurance and bring copies of all the needed certificates.

Clearing Customs: Customs and immigration in Australia is entirely digital upon arrival, you will not need to interact with another human. You will scan your passport at a kiosk and their system will automatically find your visa. After you've passed through customs, you will need to clear biosecurity - check to make sure you aren't bringing any of these items into the country or have the proper permits for them.

Canada

Visas and study/research permits: If you are a U.S. citizen travelling to Canada, fill out this online form to find out if you need a **visa** or an **Electronic Travel Authorization (eTA)** and this online form to find out if you need a **Study Permit**.

Insurance: While Canada has a universal health-care system, it is not available for international tourists visiting Canada—so you may want to purchase your own short-term medical insurance for your visit.

Clearing Customs: You will scan your passport at a kiosk and present your documents to an officer.

Israel

Visas and study/research permits: None required your passport will be stamped upon entry. You will get asked a lot of questions at the entry point. Be honest with your answers; they just want to screen for potential terrorists.

Insurance: You will need some form of proof of health insurance coverage (but this is rarely checked)

Additional Forms: You are required to bring the official letter of invitation from your host at the host institute, your acceptance letter from the LOREX program, and a letter of acknowledgement from the host institute. You may be asked to show these at the entry/visa booth.

Clearing Customs: You *might* be stopped and interviewed by a security officer after deplaning. The interviewing officer will ask where you are coming from and traveling to, and for what purpose. They will ask you if you have any relations with Israeli citizens. You can say that you are visiting people in Eilat or Haifa and have names and contact information ready to share. If asked where you know the person from - you can say that you are colleagues.

> “If you are visiting as a student, state that you are just visiting on a tourist visa at a colleague’s lab. It is best not to say that you are coming to WORK in Israel or as a STUDENT. The definition of working in Israel is being paid by an Israeli entity and being a student in Israel means you are registered or are getting credit from an Israeli institute of education.” ~Anonymous

After collecting your luggage you can pass through the “green” line at customs, you may be randomly selected to get screened (low chances) but if you are not bringing anything illegal you should be fine. Here is where you can show your letters of collaboration if needed.

Sweden

Visas and study/research permits: There is a 90 day limit on staying within the EU (within a year) without a visa so be aware of that if you are staying for personal reasons or visiting other countries or if you have already been in an EU country during the same calendar year.

Insurance: In addition to health insurance, you should also check if your insurance will cover **helicopter transportation** if needed (given the extreme ruralness of places like Abisko). If your US insurance does not cover this, you can purchase additional insurance through one of these companies:

- Geoblue (travel insurance through BCBS) offers different plans to fit different needs and budgets (they also have friendly and helpful customer service)
- Some wildlife associations offer this kind of insurance

Clearing Customs:

Chapter 4: Logistics

General Information

No matter where your international research endeavors take you, here are a few things to keep in mind when preparing to travel abroad.

Jet lag: Do not underestimate jet lag. For at least the first week, be very disciplined about dragging yourself out of bed, moving around during the day, and forcing yourself to wind down at bedtime. Balance this with listening to your body and staying healthy! Melatonin can be helpful for jet lag and resetting your body's sleep cycle.

eduroam: eduroam is an international roaming service for users in research and higher education. It provides researchers, teachers, and students easy and secure network access when visiting an institution other than their own (including field stations). If you don't have an account with your home institution, set one up **before your trip**. It will be difficult to set up an account without wifi.

Phones/SIM cards: Check with your cell phone service about whether they provide international phone plans. For example, AT&T prepaid allows you to swap your plan to an international one temporarily while you are abroad and T-Mobile has a great international plan that covers most countries. If your provider does not provide an international plan, and you intend to purchase a SIM card at your destination, make sure your phone is unlocked before arriving. **You may have difficulty setting up the SIM card if your phone is not unlocked.** You could forgo having a phone plan and rely on an app (e.g., WhatsApp) -- note that you will need an internet connection to use apps though. For security purposes (i.e., field work), having a local phone (Australian, Swedish) is highly suggested.

Power/outlet adapters: Check specific requirements for each country as far as outlet types and power levels. Multi-adapter (with exchangeable outlets) can come in handy for traveling (i.e., layovers in other countries). Note that many small instruments that work on 110V in the USA are not compatible with 220V (Israel, EU) so you will need a converter.

Odd things to bring: Most things you will need on a day-to-day basis are available fairly nearby. A few things you may or may not of thought about, but are worth the extra space in your bag no matter where you are going include:

- Hiking boots
- Rain jacket
- Swimsuit (even in arctic Sweden, or the winter in Australia, opportunities arise)
- Reusable bags for grocery shopping
- Clothes for multiple occasions (hiking, work, lounging, going out)
- Reusable food storage (reusable sandwich bags, beeswax wraps come in handy for packing food for the field or storing leftovers)
- Luggage scale

- Specific prescription medication or cosmetics

Money: Check to see if your credit card charges **foreign transaction fees**. If your bank does, consider withdrawing a large amount of money at a time to save on fees charged. Exchange money at banks or currency exchange centers. If you prefer to wait or not carry large sums of cash, there are ATMs available in most places, but most do charge fees that can add up quickly. International banks in certain locations may not charge fees for your bank. This information is likely on your bank's website, or they should be able to tell you.Tell your bank that you are going abroad and for approximately how long. One of the last things you want is for your credit card to get shut off because your bank detects fraud. Check the exchange rate prior to going to a foreign country for budgetary purposes.

Google Maps: You can download maps of specific areas or cities ahead of time to avoid using data, or to use when out of your provider's service area. These can be helpful in getting around and are even searchable!

Country-Specific Information

Australia

Settling-in/Arrival: You will likely need to fly to Sydney. From there, you can drive to Lismore or fly to Coffs. Depending on flight times you may need to stay overnight in Sydney. Check if someone would be willing to pick you up from the airport. **The semester does not start until March**. If you're arriving earlier there may be fewer people around campus.

Getting around: Australians drive on the left side of the road; just remember the driver is always in the center. There is no Uber (for the most part; a few in Coffs, but very limited). Taxis can be expensive. Car rentals are another option. Check the Vroom vroom website to price compare. The cars usually have a mileage limit.

Living Expenses: The cost of living is fairly cheap in Australia, and the exchange rate is [currently] cheaper than the United States. Also, it changes every day.

Weather: It is extreme and variable! It can be 100 F one day and thunderstorming the next day. Very unpredictable weather! It is also cold in the Austral winter, ranging from just below freezing to in the 70's!

Room and Board: A lot of students live either in a spare room of an older couple's home or live out of a van in Coffs. Rent tends to be weekly in the form of cash (~$200 AUS). Lismore doesn't have many options for accommodations. A couple of Airbnbs are available, but are far from campus. The SCU-Lismore villa facilities are good and close to campus and affordable. At Lismore, they had kitchens for the students, and the kitchen fully equipped and sometimes it has free food. The LOREX program helps coordinate housing.

Hardware stores:

- **Bunnings** - Great for last-minute research supplies
- **Big W** - A department store. You can find almost everything. It's very similar to a smaller version of Walmart
- **Kmart** - Very similar to the ones from the US

SIM card recommendations:

- Telstra is a good company to buy a sim card from
- Optus SIM card **did not have** stable service in Coffs. Apparently that company is better for urban areas.

Odd/random things to bring:

- Hiking boots!
- Bug spray (mosquitos are brutal)
- If you're there in the winter, bring layers. The temperature in Coffs ranged from 30 to 70 F during June/July. Be prepared for the cold! But also bring a swimsuit, the water temperature is semi-tolerable (and you can easily borrow a wetsuit). You don't need to worry about bugs/reptiles in the winter.
- Headlamp, no sidewalks, street lights in neighborhoods in Coffs or Lismore, walking home in the dark without one is dangerous. Easy to use a bike to get around (I was able to borrow one while I was there). Heads up it is hilly, particularly around NMSC. If you have one already and want to bike, you'll want to bring a bike headlight.

Food

Coffs Harbour: Groceries can be purchased from Woolworths, Aldi, SPAR, and Coles. **Aldi is the cheapest option!** The Park Beach Plaza (shopping mall in Coffs Harbour) also has many supplies, including groceries and a pharmacy. Delivery from restaurants is not very common, but there are plenty of restaurants to eat out from. Most places can accommodate allergies and dietary preferences. Some tasty options include:

- In Coffs Harbour:
    - Happy Frog (good for allergies/vegan food)
    - Element Bar
    - Attitude Burgers
- In Bellingen (pretty much all food options in this town are great):
    - Bellingen Brewery
    - Cedar Bar and Kitchen
    - The Purple Carrot

Lismore: There is one mall with a grocery store approximately a 30 minute walk from campus. **A reusable bag is required here!** Barbeques are very popular here and most grills are gas-powered. Lismore does not have many restaurants. The downtown has a couple of places that you can have a quick bite or a good coffee but it's far (not walkable) from campus.

Canada (Halifax, Nova Scotia)

Settling-in/Arrival: The Halifax airport is approximately a 45-minute drive away from the city. You can get to Halifax by taking a taxi (~$60 USD) or the bus (cheap, but only runs to the airport at certain times).

Getting Around: Uber is only available in 19 cities in Canada and Lyft is only available in certain cities in British Columbia and Ontario. These locations do change rather frequently as cities sign new contracts. Only three cities have **rapid transit** (subway/metro): Montreal, Toronto, and Vancouver. Most cities have a bus system, but may be limited on time and location. Some cities have public transport to/from the airport (e.g., Halifax has a bus). **Taxis** are generally the most expensive ground transportation option, but operate at all times and to specific locations. **Rental cars** are not really a feasible option for extended periods of time, but may be necessary to take a weekend trip. To rent a car in Canada, you must be 21 years of age (cheaper if you are 25), have a valid driver's license in English or French, may need to show your passport or return ticket, and have a credit card with a name that matches your license.

Living Expenses: The sales tax in Halifax is approximately equal to the money saved from the exchange rate (if coming from the U.S.). Most items are set at a reasonable price, but a few (harder to import) items may be more expensive.

Weather: In Halifax, the weather is foggy and rainy for much of the year (think Pacific Northwest climate). In the winter, the weather is snowy and cold. In the summer, the weather is sunny and warm (when not raining).

Room and Board: For extended stays, AirBnB is the most feasible option. Campuses may have dormitories available, but these will be less comfortable and may not have a full kitchen.

Measurement system: In Halifax, both the metric and imperial measuring system are used. You will see/hear speed limits, temperatures, and long distances described using the metric system. Height and weights (of individuals or food) are interchangeable with most people.

Food: Here is a list of the 17 must-try Canadian foods. If you are in Halifax, two of the "specialty items" are poutine and donair. These are available in other Canadian locations as well. The cost of groceries and selection in Canada is approximately the same as the U.S. If you require a gluten-free/vegan/vegetarian diet, you should be able to find what you need. Alcohol (including beer) is sold in separate liquor stores. The legal drinking age is 18 in Alberta, Manitoba, and Québec, and 19 everywhere else. Most cities have a wide selection of restaurant types to eat at. Here are a few recommendations for Halifax, NS:

- Wasabi House - Happy hour sushi every Friday
- Willy's - Great poutine

Fun things to do:
Halifax, NS:

- Nova Scotia in general has beautiful places to visit if you go the right time of year

- McNabs Island is a cool place to go with a group. You can take a “ferry” out to the island and explore. There is a scenic view from the top of an old military fort. On special occasions, they will also give guided tours.
- Plenty of **hiking trails and parks** within walking distance of residential areas
- Check out the beaches at various lakes and the **Halifax Arm** (waterway that leads to the Atlantic Ocean)
- The **Halifax Wanderers** are a local soccer team that is part of the Canadian Premier League
- The **Bay of Fundy** is approximately a 2 hour drive from Halifax
- Within the city limits, there is a great **craft beer scene**

Electricity: Same electrical system as the U.S.

OBJ

Israel

Phone and internet service: Some phone service providers work in Israel with no roaming charges, like T-mobile. AT&T also allows you to temporarily switch to an international phone plan. Check in advance. If you do not have service, you will need to get a SIM card. Otherwise, you can rely on using a messenger app whenever you have WiFi. This can be problematic if you’re traveling a lot or camping/hiking.

Internet: Israel is GREAT about free WiFi. Most trains, buses, and general city-limits locations have free WiFi. The IUI also has its own guest WiFi.

WhatsApp for everything: even with their own phone service/messenger, most Israelis communicate over WhatsApp. This is a necessity.

Power supplies: Public transportation and cafes usually have USB ports for charging, which do not require any converters. For devices that need to be plugged in to the wall at home or out (like your laptop), you will need a converter. You can find the converters at almost any corner store. They look like this! Electricity is 220V not 110V so instruments (pumps, electric razor, hair dryer) cannot be plugged in directly.

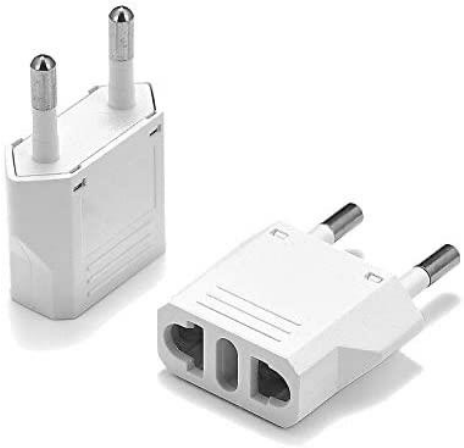


Image source: amazon.com

Public Transportation

Trains: There is train service, but it is more for covering larger distances, like traveling from southern Israel to northern Israeli cities. No train service goes all the way to Eilat. The closest you can get on the train is Ber Shevan. From there, you will need to take a bus. https://info.goisrael.com/en/israel-railways-lines-stations-map-320811

Bus schedules and routes: Eilat does have good bus service, and the buses are large and comfortable- very similar to US charter buses. https://www.egged.co.il/HomePage.aspx. If you type your destination into google maps and click the public transportation icon, it will give you directions to the nearest bus stops, which bus lines were there, and how many minutes until the next arriving bus.

Gett taxi app: There is no rideshare service in israel, but there is an app that works similar to Uber to request a taxi pickup https://gett.com/il/taxiapp/

Surprisingly - **hitching***:* Hitchhiking is a very common way of getting around in Israel. Israelis young and old do this, and it is generally considered safe. But if you are not familiar with the way it is not recommended.

Room/Board:

For short trips: hostels are great. A lot of Israeli hostels are cheap and pretty nice, feels like a regular hotel. Free breakfasts are usually included with your stay, and are delicious

For your entire stay: The IUI has some on-site student dorms, but they are very limited. The benefit is that you are on-site and on the beautiful private beach. The downside, the dorms are (like most dorms) very small, often with shared bedrooms. The IUI station is also located away from the city center. There are also two offsite IUI apartments (in the city) that are ~20 minute bus ride from IUI. These apartments have full kitchens, sometimes unshared bedrooms, and multiple bathrooms. However, the beds and furniture are pretty uncomfortable. If you stay in IUI owned lodging, the order will be booked and paid for through the IUI website. A contact at the IUI will coordinate with you and give you instructions on how to get to the place. If you can, I would recommend finding

your own furnished apartment with other folks in your cohort for the sake of your comfort. It makes a big difference!

Food: Readily accessible at lots of small food stands, cafes, and corner stores, and is pretty cheap. Should you choose to go to one, there is usually one high end and one low end supermarket in every neighborhood. But I wouldn't bother. In my experience, the corner stores and bakeries have the best food and generally everything you need. Delivery is not really a thing, so if you order food you will need to pick it up.

Recommended odds and ends to bring:

- Sun protection: the sun in Israel is very strong. Even when it is cooler, between 11 AM and 2 PM, you should wear at the least a brimmed hat and dark sunglasses. It is recommended to wear light long sleeves to cover up skin.
- A hoodie or sweater: even though it gets really warm during the day, and may be a warmer temperature at night, the nights are windy and dry so it can feel cold
- Trail shoes or hiking boots
- Windbreaker
- Swim suit
- Reusable large water bottle

Sweden (Abisko Field Station)

Settling In/Arrival: To arrive at the Abisko Field Station, take the train from Stockholm to Umeå or Abisko. From Stockholm, Abisko is about a 24-hour train ride. From Umeå, Abisko is about an 8-hour train ride. **Make sure someone knows when you're arriving**, and your contact should pick you up at the train station. Your room key and blipper-tag will be at the front desk. The blipper-tag lets you into buildings, your room key is for your room.

Getting Around: Public transportation is great in Sweden. **Night trains** are great for longer distance trips (e.g., from Stockholm to Umeå or Abisko), wherein you get a bunk bed in one of the cars. In cities (not Abisko), there are regular **buses** and tickets can be purchased for them ahead of time (and at a slight discount) from bus apps (e.g. in Umeå the app was called ULTRA).

There are 4 ways of getting around Abisko:

- **Walk**. Recommend doing this whenever you can to soak up the fresh air.
- **Hitch a ride** from someone at the station. There's a whiteboard in the entryway where people schedule carpools, and you can also **use Whatsapp to communicate**. This is the best option for fieldwork.
- **Bus schedules** can be found online and on a corkboard by the front desk and tickets can be purchased online or as you board the bus. The bus is intended to transport people from Narvik, Norway to Kirana, Sweden. There are stops between but this is **not intended to be a local bus**. For instance, you can catch the bus from Stordalen Mire to the grocery store, but this bus only comes once a day and is about $15 one way (for a 5-10 min trip). Expect to walk to the grocery store or the tourist station, or hitch a ride.

- There are two **train stops** in Abisko. Östra is closest to the field station. Schedules can be found online and on a corkboard by the front desk and tickets can be purchased online.
- **Station cars** -- ask for details ahead of time; most are manual. There is a gas station at the grocery store, but occasionally the gas station runs out of gas.

Living Expenses:
Basic groceries in Abisko are comparable in price to the US (which is shocking because of the isolation). A weekly grocery trip was about $40 for a light vegetarian eater.
Ski lift/train fare: Nuolja ski lift is $15-20 and here is a website for tourist info around Abisko. Train fare depends on where you're going, and this is the link to the train company website.

Weather: Abisko is above the Arctic Circle, which means that the weather is heavily influenced by the seasons. There are sunless times in the winter and times of midnight sun in the summer. In the warmest times of summer, the average temperature outside is about 53F/19C with some wind. In the winter, all of the lakes are completely frozen over and most landmarks are indistinguishable through the snow. And the northern lights are superb!

Room and Board: Umeå has university housing available for visiting researchers. In Abisko, visiting students are put in one of three dorm-type houses that have maybe ten 2- or 4-person rooms, one kitchen, a boy's bathroom, and a girl's bathroom. The dorm buildings are called Carex, Culex, and Trolhus. Get ready to make lots of international friends! **Sheets and towels are not provided by the station**, but a duvet and pillow are. The beds are twin-width but longer than a twin. It is expected in European countries that you provide a duvet cover as well as your standard sheets (at the field station or if you stay at a hostel). The residents are in charge of cleaning the dorms and self-organize into task teams. **Be prepared to give one hour a week to help clean the common areas**. Common space exists for researchers to store large items (bike, suitcase). The showers are stalls, and you are expected to squeegee the floor after you're finished. There's no vent, so you'll have to crack the window (and it'll be cold!). Students often share food and cook meals together. Vegans are always welcome.

Visiting researchers can rent apartments in the station main building. This is mainly available for your adviser or when/if your collaborator comes to visit. Other visitors (family, friends) can rent a room at the Abisko Lodge or Hostel). The game room and all other common areas in the main building downstairs of the apartments is for all residents to use at any time. The 2 saunas and laundry room in the main building can be reserved by anyone, just write your name on the schedules. **Detergent is not provided**, so team up with your dorm to share a box or two. The boat sauna can also be used by anyone but requires a lot of prep. You have to cut the firewood, fetch the water, and start the fire yourself. It's best to get a whole group together and make a beach party out of the boat sauna. The reservation schedule is on a clipboard at the main desk. Out buildings are open for use. If there is not a class/meeting, they are available for personal use (such as video chatting, phone calls, alone time, movies, etc).

Resources at the station: There are a few field cars available. But you (or your collaborator) will need to pay to use them and fill out some paperwork to be approved to drive them. **They are all**

manual transmission. Payment is through project number. There is a workshop that is open during the week. It has the standard tools you would expect in a workshop. You can check out materials to use (hammers, drills, etc.). It is closed outside of business hours. There are several labs that are shared by visiting researchers. You can sign up for bench space and store materials in these labs using the clipboard on the door. Much of the equipment and machines belong to individual researchers. There are some resources (drying ovens, ball mills, weigh rooms, pH meter, chemicals) that belong to the station that you can reserve. **The field station is very strict about the storage of chemicals** since it is very rural and there is not a local fire department. Chemicals have to be registered and are only allowed to be stored in chemical cabinets (flammable or not) that are locked. Keys can be checked out.

For field equipment, there are two field storage rooms in the main building. There are waders, boots, hiking bags, quadrats, etc. Some of these are available for municipal use and can be signed out from day-to-day. Some of these materials belong to individuals (i.e., some of the muck boots will have the names of labs written in Sharpie). Be sure to use municipal equipment, and get the proper permissions before taking things from these rooms. The boat house has life jackets, arctic floatation suits, etc. The upper garage has nets, inflatable rowboats, and other miscellaneous equipment. Make sure you talk to someone before taking these.

Field Work Logistics: Sweden has a **"right-to-roam" policy** when it comes to outdoor spaces so you do not need permission to access land/streams. This is evident as people camp anywhere and everywhere (i.e., on the side of the road). But there are some restrictions within the Abisko National Park so double-check if you plan to sample there. In the U.S., it is common to have to worry about sampling equipment being tampered with or stolen. This is not so much a concern in Sweden, there is a bigger respect of the fact that equipment belongs to a person, so it's ok to leave your equipment unattended on shore for an afternoon.

Food:

Grocery Stores:

- **Godisfabriken**: 15-minute walk from the station. It's half candy and full of Norwegians who cross the border to avoid the sugar tax. This store is surprisingly well-stocked considering its remoteness. It carries a variety of fresh and frozen foods, including produce, meats, and a surprising (and delicious) selection of meat alternatives, as well as your standard pantry goods (bread, pasta, flour, oatmeal, rice, etc). There are even things like taco spices, coconut milk, and curry mixes. Produce here can be hit or miss, and often goes bad quickly. This grocery store has a good variety of vegetarian options.
- **Stora Coop in Kiruna** (1 hour away): A large grocery that has basically everything--even random house or personal supplies like house slippers. Hop on a carpool for this one, or ask for those going to pick you up a few things. Kiruna is the nearest small town. It also has a hardware store, an outdoor store, a few restaurants (incl. Burger King). If you find you need some random piece of equipment you may be able to find it here.
- **Systembolaget** in Kiruna: the liquor store where you can buy things over 3.5% alcohol. Grocery stores in Sweden do not carry alcohol over 3.5%. Near-beer (3.5% ABV and under) is available in grocery stores (including Godisfabriken).

The only **restaurant** in Abisko is at the **tourist station**: There is a lovely breakfast buffet every morning, with fresh bread, eggs, coffee/tea/hot chocolate, etc. It is moderately priced (~$10 after taxes). Treat yourself some time. Dinners are fancy, with fixed menus. Items can also be ordered a la carte. There is always a vegetarian menu option. The food is delicious but expensive (~$30-40 for the full fixed menu -- appetizer, entree, and dessert, or $15-20 for the a la carte entree). Coffee, hot chocolate, and tea are included. There are two bars at the Tourist station, one at the front desk with a small selection of about 4-5 beers and a couple of wines, and one in the lounge (which is not always open). The lounge also has a TV. If soccer is happening, the lounge will open to allow people to buy a beer and watch the game. Note, if there is a game it can get very crowded very quickly. Come early to get a good seat.

Fun Things to Do:

Abisko:

- Abisko Nature Center
- There is a seminar series in the Naturum of the Nature Center. Consider putting together a casual talk for a lay audience to contribute to the seminar series.
- Midsommer (around 6/20) is a big celebration in Sweden. The research station has its own potluck style midsommer dinner party. There is also a midsommer celebration at the tourist station with traditional Swedish music and dancing, as well as free strawberry cake (so good!) and coffee. Put on your dancing shoes, a flower crown, and join the festivities!
- The Midnight sun ski lift runs in the evening through part of the summer (mid-june to mid-July) to take people up the mountain to enjoy the midnight sun. It is beautiful and highly recommended, but pretty pricey ($20-30)
- There's a HUGE network of hiking trails all around Abisko. Snag a brochure at the Nature Center or tourist station
- Hike!

Kiruna: They have various small shops, a lot of Sami culture learning opportunities, and a summer festival.

Narvik: A Norwegian port town that's about 3 hours train or bus from Abisko. It's a great day trip. Has a ski lift, a mall, and a fjord. Was an important Nazi port during WWII.

Stockholm: If you are planning on spending an extra couple of days touring Stockholm on your way home (highly recommend!!), here are a few recommended points of interest:

- Väsa Museum - the museum displays the only almost fully intact 17th-century ship that has ever been salvaged, the 64-gun warship Vasa that sank on her maiden voyage in 1628. It's kind of a funny story. Sunk a mile or so from the docks on its maiden voyage. The boat was too top-heavy and immediately flopped over and sank. The boat is in the museum, and it's almost completely intact because the harbor was so hypoxic it didn't decay. There are even the skeletal remains of crew members, accompanied with backstories -- if you're into that sort of thing :) One of the coolest museums I've ever visited.
- The ABBA museum -- The Swedes are VERY proud of ABBA. Take a photo with ABBA in the photo stand-in outside the museum.
- Kings scavenger hunt -- Scattered around the city are bronzes of Sweden's past kings.
- Maritime History Museum

- Nobel Prize Museum
- Tre Kronor (the palace)
- Nordiska Museet -- a museum of Sweden's cultural heritage and the nordic way of life. Has an excellent gigantic statue of King Gustav Adolf I.
- Viking Museum (a little cheesy but really fun)
- There may be a farmer's market on the porch of the opera house in the summertime. It's fresh and delicious!
- Stortorget (literally The Big Square) -- It is the oldest square in Stockholm and probably the most-taken picture in Stockholm. This square in Gamla Stan has four brightly-colored townhouses on one side, an excellent cafe across from them, and the Nobel Museum between them.
- Stockholm is actually an archipelago! Your tunnelbana pass is also good for ferry rides around the islands.
- Take a stroll around Stockholm University
- Walk all around Gamla Stan and the palace --it's gorgeous <3

Chapter 5: Cultural Considerations

General Advice

1. Always, always **listen before speaking**. Remember, you're in a new place and not every culture values the same things that the US does. Triple-up on that brain-to-mouth filter.
2. **English is spoken at all sites** but do not take it personally if people around you revert to their native language. Don't be shy, remind them that you do not understand.
3. We found **Google Translate's photo capture translation** of menus and the like to be very helpful. Download the dictionary on the Google Translate app to use this feature on the go without the internet or cellular data.
4. Almost everywhere is **more green than the US**. Keep your reusable grocery bags handy and be ready for recycling, composting, and bicycles to be very common, and be ready for plastic to cost extra in many places.
5. We suggest you bring a **little souvenir** from your university to give to your collaborators when you arrive as a goodwill gesture. Also, make sure you say goodbye when you leave.
6. Not all locations were always welcoming of Americans, or Black, Indigenious or People of Color (BIPOC). Before traveling, **doing your research on cultural differences** can be helpful in preparation for traveling to a new location.

Country-Specific Information

Australia

Language

Australian slang	**What it means**
No waukkas	No worries
Keen	Eager
Stuffed around	Messed with
Barbie	BBQ
Ute	Pickup truck
Togs	Swimwear
Boardies	Boardshorts
Gobsmacked	Astounded
Maccas	McDonalds

Esky	Cooler
Heaps	Lots
Good taca	Good eats!
Mate	Just use this all the time

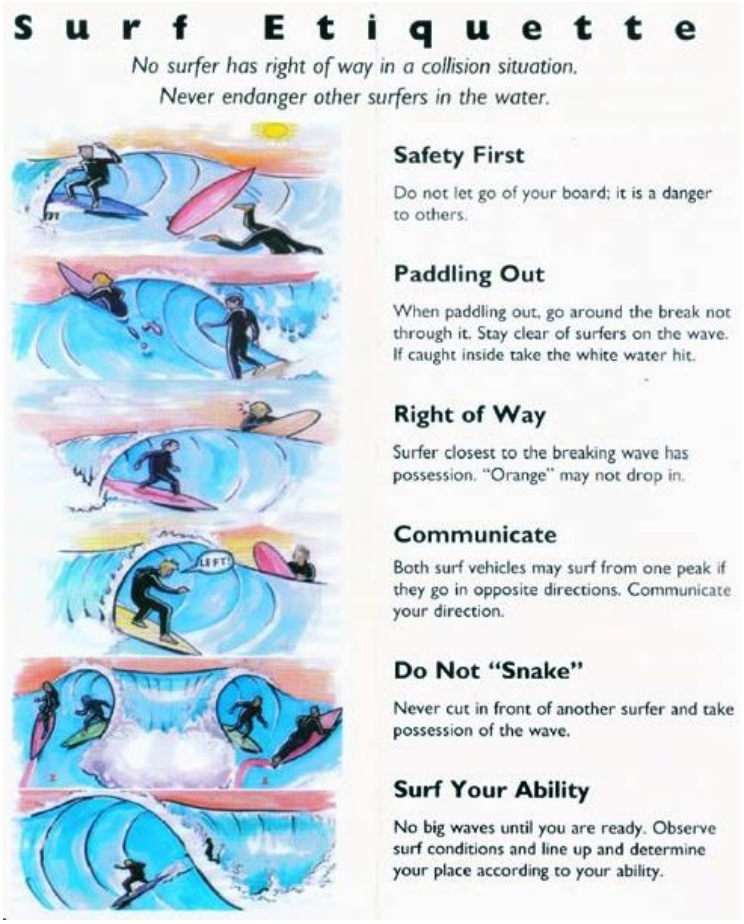
General Culture

Australia is "*The nicest racist country you will ever see*". Jokes and slurs that are very offensive in the US are considered only "gently racist" in Australia. Of course, this doesn't mean that any form of racism is ok. At all.

There are many **cultural differences** between Australia and the US which may come as a shock to an American. Here is a list of *15 cultural differences* between the US and Australia.

There are many **food** options in Australia. For the most part, the food is very similar to what you can find in the US. A lot of the restaurants in both Lismore and Coffs Harbour offer a variety of different types of authentic Asian food. When eating out, allergens are generally listed and **gluten-free/vegetarian options are readily available**.

Many graduate students in both Lismore and Coffs Harbour surf. If you are interested in learning there are also surf schools that you can attend. However, if you want to surf and don't know **surf etiquette**, ask someone about it first or look it up.



Work culture

Work hard, play hard. It is okay to take a break. It is encouraged that you take time away from work. It is also expected that you have a life outside of your work. Weeknights and weekends are generally spent surfing or socializing with others rather than working in the lab.

Work hours are M-F 8am - 6pm. Often the buildings on campus are locked outside of these hours. In addition, many people will not respond to an email outside of business hours. For help on the weekends, find a contact person who is available. This can be extremely helpful if an issue occurs.

Restaurants, grocery stores, etc. **close early on weeknights** (around 9pm or earlier) and are not always open on weekends. Plan accordingly if you need to go to the grocery store or buy research supplies from local businesses.

Grad school expectations are much more chill in Australia compared to the US (at least that is what I found, particularly for PhDs). Program difference. In the US you are expected to take courses, often be a TA, research and have a comprehensive exam after your courses. In AUS the

PhD program is generally shortened (~3-4 years) because it is just focused on the research component.

Holidays

1. **Australia Day** - (January 26). This holiday commemorates the first European settlement at Port Jackson in 1788, which is now part of Sydney.
2. **Anzac Day** - (April 25). Stands for Australia and New Zealand Army Corps. On this day in 1915, Anzac set out to join Allied forces in capturing the Gallipoli peninsula from the Ottoman Turks. (Swedish power metal band Sabaton wrote this song and made this educational video about it.) Today, Anzac Day commemorates all Aussies and New Zealanders who died during military operations.

Dress is very casual - both at work and not. You will have to wear **closed-toed shoes** to get into work buildings and labs, which is a struggle for many people.

> *"Wearing shoes is a very relatable struggle, coming from Hawai'i."* ~Trista (Coffs Harbour, Australia)

Canada

Language

French is the primary language in Quebec, and **English** is the primary language everywhere else. New Brunswick is a bilingual province. Most of the (non-academic) people you interact with in Quebec can speak English but prefer French (so don't ask "Do you speak English?" That's a little insulting). The most polite thing to do is to exchange greetings in French to show that you respect their culture and then ask to continue in English. If you're comfortable, keeping "merci"s and "madame"s even while you're speaking English will go a long way.

French phrase	**English meaning**
Merci	Thank you
Bonjour	Hello
S'il vous plaît	Please
Monsignor/madame/mademoiselle	Mr/Mrs/Miss. Use as sir/ma'am/miss to address strangers and formal acquaintances
Oui/non	Yes/no
Anglais/français	English/french

Anglais, s'il vous plaît?	English, please?
Pourrons-nous parler anglais, s'il vous plaît?	Could we speak english, please?
Excusez-moi/pardon	Excuse me/pardon
Interdit	Forbidden (look for interdit on signs to tell you what cannot do and where you cannot go)
Ne [verb] pas	Do not [verb]
Bienvenue	Welcome. In classic French, this means "Welcome to a place", but in Quebec it is also used as the response to "thank you"

General Culture

Canada is culturally similar to the **mid-western US**. People generally are pretty polite and helpful.

Work culture

Work hours are about **9-5**, and work culture is **relatively relaxed**.

Holidays

1. **Canada Day** - (July 1). On this day in 1867, the Constitution Act joined Nova Scotia, New Brunswick, and the Canada Province into one country, though Canada was not completely independent of England until 1982.
2. **Victoria Day** - (second to last Monday in May). This day was initially in honor of Queen Victoria's birthday, and is now celebrated as the official birthday of Canada's sovereign. It also informally marks the beginning of summer.
3. **Labour Day** - (first Monday in September). Originally gave workers a chance to campaign for better working conditions or pay.

Israel

Language

All academics are fluent in **English as a second language.** Most Israelis under the age of 50 have also learned English as a second language in grade school. However, many of the people you interact with for essential services (bus drivers, grocers, cab drivers) only speak a little bit of English. Most grocery and consumable labels will only be **written in Hebrew and Arabic**. It is beneficial to learn a few basic phrases for shopping, public transportation, asking for the time/directions, and greetings (hello/goodbye/thank you).

Phrase	Meaning
Shalom	Hello/goodbye
MaNishma	How's it going/what's up?
Lehit-raot	See you later
Kama Ze Oleh?	How much does this cost?
Bevakasha	Please
Ma hasha'a?	What time is it?
Slicha	Sorry/Excuse me
Ken/Lo	Yes/No
Atah Medaber Angleet? (male) *At Medaberet angleet? (female)*	Do you speak English?
Eifo Ha Shirootim?	Where is the bathroom?
Matai haotobus haba yotse?	When is the next bus?
Eifo tachanat haotobus?	Where is the bus stop?

General Culture

Eilat is like the Orlando, FL of Israel- warm, full of tourist attractions, and with plenty of nightlife. Israelis go to Eilat for a quick weekend getaway, and a lot of Europeans take quick, cheap flights to Eilat during their winter off-time. The dolphin reef is the most popular, and is located on the Red Sea shore near the Egyptian border. The reef is a unique ecosystem- one of the only large coral reefs located in a desert environment. Visitors can experience the reef by snorkeling out from the beach or viewing it from indoors at the Underwater Observatory. Conveniently, this attraction is just a short walk from the Interuniversity Institute for Marine Sciences (IUI)! Despite being such a large tourist destination, the local population of people that live and work in Eilat is very small and they all know each other. As someone temporarily living and working there, it gives the Eilat experience the contradictory feeling of being a big tourist city and a small town at the same time. Generally, your peers are your friends and community.

Food

Coffee: Israelis almost exclusively drink either instant coffee or cappuccino.

Best fast food*:* Aroma is Israel's Panera, and is super affordable. The soups, salads, sandwiches, and pastries are always fresh. Also one of the few places in Israel where you can get drip coffee.

***Best local food**:* falafel and shawarma!!! At most falafel/shawarma spots, all kinds of roasted and pickled veggies and fries are included for free, If you load up, one purchase can definitely last for two meals

Best dessert: Kanafa. This dessert is a layered bottom crust, sweet ricotta-like cheese filling, topped with a shredded sweet crispy dough and pistachios, and served in a rose sugar syrup

Best readily available beers: Imported- Tuborg; Local- Gold Star

Work culture

Standard work week is Sunday - Thursday, 8AM to 4PM. By 3PM, most people are wrapping up their day and getting ready to leave.
It is common to break for grouplunch/ coffee/tea in the afternoon (~1 PM).

On the last day of the work week, there are often **big informal gatherings** like lunch and happy hour. At the IUI specifically, many of the students and faculty come to the institute on the weekend to enjoy recreational activities together on the beach.

The big “out” night is Thursday night, and usually doesn’t get started until 10PM. The weekend itself is pretty quiet, and public transportation service is limited. Most businesses are closed for the **Sabbath (Friday afternoon Saturday)**. A lot of the weekend activities tend to be more physical, with water sports, rock climbing, camping, and hiking being the most popular.

Holidays (exact date varies year to year):

1. **Rosh Hashanah** - (usually late night). Jewish New Year
2. **Yom Kippur** - (usually late September). Day of Atonement
3. **Sukkot** - (usually early October). Feast of Tabernacles
4. **Chanukah** - (late december). Festival of Lights: Look out for the special Jelly donuts!
5. **Purim** - (early March). sort of Jewish Halloween
6. **Passover** - (early April)
7. **Shavuot** - (late May). festival of weeks
8. **Tish’a B’Av** - (late July). commemoration of the destruction of the two temples

People are more communicative if you **go seek them out in their labs/offices** rather than via email, especially if the email has a lot of detailed explanation.

Communication in the workplace is **overall informal**. Everyone, regardless of their title, is on a first name basis.

Sweden

Language

About 80% of Swedes speak English, so communication is rarely a problem. Don't start your exchanges with "Do you speak English?" Just ask what you need. If you're talking to a stranger or want to be extra polite, start with a hej or ursäkta mig and then jump into English, and finish with a tack.

A lot of Swedish sounds a lot like English, so you can figure out some words by sounding them out and breaking them down. For example, *Nödutgång* = nud-oot-gohng = need-out-going = emergency exit.

Swedish	**English**
Tack/tack så mycket	Thanks/thank you so much. There's no Swedish "please", but if you put tack at the end of your request it can sort of serve the same function
Ursäkta (mig)	Excuse (me). "Ur-shek-ta (mey)"
Hej/hallå	Hello. Hejhej = hi
Fika	Coffee break
[verb] ej, [verb] inte	Don't [verb]
Förbuden	Forbidden
Tåg	Train
Tunnelbana	Subway/metro

In general, Swedish people may be **somewhat more reserved or nuanced** in their communication. Try to be exceedingly empathic and respectful.

> One fellow foreign researcher jokingly described what Americans would perceive as a reaction to a minor inconvenience as Swedish livid.

Be **direct in asking your questions and stating what you need**, but don't phrase it like you expect anyone to fulfill your wishes for you. To Swedish ears, this will be pleasingly efficient and sound polite and independent. They will return the favor by being clear and direct about what they can and can't help you with. (This is the opposite of America, where it's polite to understate what you want, but effective to be confident about others' accommodation.)

Keep your ear out specifically for when a Swede sounds hesitant or breaks eye contact. To an American, that's often a bargaining technique ("What you're asking is worth more than what you're offering"), but what your Swede is actually saying is, "This makes me very uncomfortable, but I'm too polite to tell you how impossible it actually is". Back off and start brainstorming other options.

General Culture

Be more quiet and more polite than you think you need to.

Always follow signs and rules. In the US, we tend to think of crosswalks etc as suggestions, and as a society our independent pioneer spirit is alive and well. In Scandinavian countries, there's a much greater sense of societal agreement and it's seen as very strange to chafe against rules.

Nordic **humor is very dry**, even by European standards. Sarcasm is virtually undetectable, but almost everywhere. This comic and caption by Danish artist Humon may shed some light. Here is another Humon comic that explains how to classify northern countries (Nordic vs Scandinavian, etc.)

Like many European countries, Sweden is classified as a **post-Christian country**, which means that a couple generations ago most people decided that they don't need religion anymore, and most people today don't know or understand much about any religion. This means that the few religious people who reside in Sweden today consider their faith to be very special and personal. If you want to wear openly religious clothing or jewelry, you're free to do so but it might make it difficult for people to talk to you. As polite as Swedes are, they will likely be nervous about accidentally insulting something special to you because they don't know much about religion.

Food

Sweden is very **vegan/vegetarian friendly**. There will always be an animal free option no matter where you eat, and purchasing vegan groceries is very affordable. I highly recommend looking for Oatly oat milk products!

Lingonberries are cranberries extra-strong cousins. They're used to add a splash of color and tang to normally mild traditional Swedish food.

A lot of traditional Swedish food involves mashing things up and rolling them into balls. Köttbullar (meatballs) and chokladbollar (cocoa/oat/coffee/coconut balls) follow this delicious pattern.

Work culture

Standard working hours are **roughly from 7:30 - 4:00 Monday - Friday**.

The Swedish take **work-life balance *very* seriously**. This is summed up in the Swedish word **lagom**, which has no literal translation but conveys the ideal that "balance is healthy (in everything)". Individuals do not expect to work off-hours or over the weekend, and you should not assume that research staff will be available to help you, or that some facilities (e.g., the workshop in Abisko) or resources will be open.

Your collaborator and the research staff you contact will likely not be checking their emails at night and over the weekend, so communication can take a bit longer.

If you're working in a remote area, **do not expect that your collaborator will be on-site to assist you**. You should have a frank conversation about your expectations for your collaborator and vice versa and set up a plan of action that respects their holiday schedule.

Fika is an important part of Swedish culture. It translates to coffee break and is often used to mean coffee plus a little treat or the room where coffee is taken. It can include tea and often snacks. It is time for people to take a break and socialize with each other. Every workplace has fika every day in the fika room. At a research institution, much of the regular research staff and visiting researchers participate and people rotate cleaning and bringing snacks to share with the group. This can be a great opportunity to meet and get to know the research staff and other visiting researchers.

Pro-tip: Incorporate *kladdkaka* (gooey chocolate cake) or *kanelbulle* (cinnamon-cardamom buns), available in the frozen food section of any grocery store, into your fika routine.

If traveling to Sweden in the **summer**, keep in mind that summer is traditionally a time to vacation or holiday. Like other European countries, Sweden highly values their holiday, and even academics are highly encouraged, if not required, to take a holiday. Advisers often are very hands-on with their students over the academic year and are less communicative or available if they are on holiday over the summer. It's best to ask your collaborator frankly and directly what their holiday schedule is and how/how often they are ok with you contacting them. Communications can also be slower if your collaborator is on holiday. For this reason, thorough communication and planning prior to your visit are crucial.

Holidays

"Red days" are the Swedish version of bank holidays. Basically everything closes down on red days and people just chill. Bigger holidays include:

1. **Midsommar** - (the Friday between June 19-25). Midsommar is when Swedes really let their freak out. On this bizarre, wonderful day, you'll see lots of flowers, alcohol, strawberries, and a maypole. There's a special song and dance for the maypole, Små grodorna (small frogs), that involves dancing like a frog. The lyrics translate literally to "small frogs are funny to look at, they have no tails, they have no ears. *Frog noises*".
2. **Sweden National Day** - (June 6). This is the day that Gustav Vasa was elected as king (yes, elected. King.) in 1523 and the adoption of a new constitution in 1809. Celebration of nationaldag is pretty mellow. The monarch gives a public speech and there may be more flags around than normal.

Swedes are very **informal**. They almost always prefer to be addressed by their first name and if you're still speaking formally even after a few exchanges it'll seem like you're trying to keep them at arm's distance.

Social hierarchy is very loose, but ensure that you are always respectful of your collaborators. Even if you're barely out of undergrad and this is your first-ever experiment, your opinion will be listened to just as seriously as that of the distinguished researcher (assuming you're properly polite).

Appendix A - Custom Forms

Canadian Custom Forms

CI1 - Canada Customs Invoice
EDI Release – Exception Lead Sheet
E29B – Temporary Admission Permit

Appendix B - Alternative Funding

If you need additional funding for research or other aspects of your project, here is a list of resources and fellowships that you can apply for. Double check the conditions of the funding (what can it be used for? Research? Travel/living expenses? Equipment? Do you have to be a student when you use it?)

1. Funding through on-campus study abroad office or graduate student organization or your department/university (options will vary by institution).
2. External grants:
    a. Geological Society of America Graduate Student Research Grants (over 50% success rate; awards are up to $2500)
    b. National Geographic Early Career Grant
    c. American Water Resources Foundation Richard A. Herbert Memorial Scholarship
    d. American Geosciences Institute Harriet Evelyn Wallace Scholarship
    e. Graduate Women in Science National Fellowship Program
    f. Sigma Xi Grants in Aid of Research Program
    g. Phycological Society of America Grants in Aid of Research
    h. List of geoscience-specific opportunities at FutureRXDoc
3. Scholarships for U.S. citizens going to Canada:
    a. Canada-U.S. Fulbright Program
    b. Fulbright-MITACS Globalink

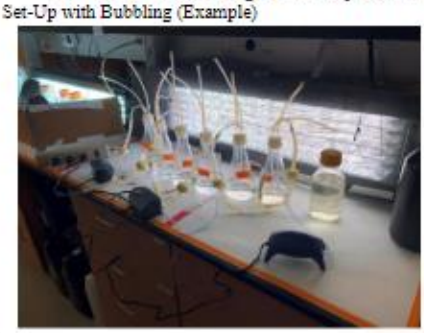
Appendix C - Schedule & Research Plan Examples

Making a schedule or developing a research plan is a personal experience. Everyone has their own preferences on what they need to focus on or how detailed the plan needs to be. Some researchers need a daily schedule to keep themselves on track. Some researchers just need a to-do list. Don't be afraid to create your own plan the way you want to.

Below are just a few examples of what previous collaborators have created -

Week	Type of Work	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1		2-Jun-2019	3-Jun-2019	4-Jun-2019	5-Jun-2019	6-Jun-2019	7-Jun-2019	8-Jun-2019
	Experiment	Arrival, Explore Area	Meet Dal community and explore lab. Prep for 1st experiment (prepare stock solutions, bottles, set-up)	Finish prep for 1st experiment. Begin experiment. Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P
	Model				Meet with graduate students and faculty to discuss quota-based modeling strategies/techniques/protocols	Meet with graduate students and faculty to discuss quota-based modeling strategies/techniques/protocols	Meet with graduate students and faculty to discuss quota-based modeling strategies/techniques/protocols	
2		9-Jun-2019	10-Jun-2019	11-Jun-2019	12-Jun-2019	13-Jun-2019	14-Jun-2019	15-Jun-2019
	Experiment	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Begin 2nd experiment? Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P
	Model		Meet with graduate students and faculty to discuss quota-based modeling strategies/techniques/protocols	Meet with graduate students and faculty to discuss quota-based modeling strategies/techniques/protocols	Meet with graduate students and faculty to discuss quota-based modeling strategies/techniques/protocols	Meet with graduate students and faculty to discuss quota-based modeling strategies/techniques/protocols	Meet with graduate students and faculty to discuss quota-based modeling strategies/techniques/protocols	
3		16-Jun-2019	17-Jun-2019	18-Jun-2019	19-Jun-2019	20-Jun-2019	21-Jun-2019	22-Jun-2019
	Experiment	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Last day of experiment? Swirl Bottles, Daily Protocol = Cell counts, cell volumes, subsample for L:C:P, C:N:P	Adjust for Experimental Problems
	Model		Read about quota-based modeling	Read about quota-based modeling	Read about quota-based modeling	Read about quota-based modeling	Read about quota-based modeling	
4		23-Jun-2019	24-Jun-2019	25-Jun-2019	26-Jun-2019	27-Jun-2019	28-Jun-2019	29-Jun-2019
	Model	Adjust for Experimental Problems	Begin to develop framework for model	Develop framework for model	Develop framework for model	Develop framework for model	Develop framework for model	
5		30-Jun-2019	1-Jul-2019	2-Jul-2019	3-Jul-2019	4-Jul-2019	5-Jul-2019	6-Jul-2019
	Model		Develop framework for model	Develop framework for model	Develop framework for model	Develop framework for model	Develop framework for model	
6		7-Jul-2019	8-Jul-2019	9-Jul-2019	10-Jul-2019	11-Jul-2019	12-Jul-2019	13-Jul-2019
	Model		Develop framework for model	Show famework to graduate students and faculty for comments and suggestions	Show famework to graduate students and faculty for comments and suggestions	Show famework to graduate students and faculty for comments and suggestions	Show famework to graduate students and faculty for comments and suggestions	Prepare for Departure

Project Description/Skeleton Schedule

1. Dates
   a. Arrival → June 2nd, 2019
   b. Departure → July 14th, 2019
2. Materials Needed
   a.
3. Set up
   a. For sure
      i. Control + Media (F/2 + Si) = 3 Replicates
      ii. CA Inhibitor Treatment + Media (F/2 + Si) = 3 Replicates
   b. If have time, add on
      i. Control (No nutrients, nitrogen limitation?) = 3 Replicates
      ii. CA Inhibitor Treatment (No nutrients, nitrogen limitation?) = 3 Replicates
4. Strains
   a. *Skeletonema costatum*
   b. *Cylindrotheca closterium*
5. To Do:
   a. Figure out the volume of culture needed to perform analyses
   b. Ship strains to determine if they will adjust to seawater
   c. Determine max uptake and half saturation coefficients for strains
   d. Think about what I want my model to address
6. Skeleton Schedule
   a. Experiment
      i. 1st week → Prepare stock solutions, set up bottles, begin experiment
      ii. 2nd – 3rd week → Run experiment and adjust for methodology hick-ups
         1. All controls and treatments will be run for 7 days (at least)
            a. CA Inhibitor Treatment with *Skeletonema* might only last 4 days before cells are completely degenerated (strong cell mortality).
         2. Daily protocol for experiment:
            a. Cell counts
            b. Cell volumes
            c. Sub-samples for lipid:carbohydrate:protein analysis
            d. Sub-samples for C:N:P analysis
      iii. 4th – 6th week → Run macromolecular and elemental stoichiometry analyses, begin to analyze results
   b. Modeling
      i. 1st – 3rd week → Meet with graduate students and faculty to discuss quota-based modeling strategies/techniques/protocols
         1. Will be given readings
      ii. 3rd – 6th week → Begin to develop framework for model
7. Current Set-Up with Bubbling (Example)
   a. 

Standard Operating Procedures

8. Experimental Set-up
   a. Equipment
   b. Preparation
   c. Process
9. Cell Counts/Volumes
   a. Equipment
   b. Preparation
   c. Process
10. Lipid:Carbohydrate:Protein Analysis
    a. Equipment
    b. Preparation
    c. Process
11. Carbon:Nitrogen:Phosphorus Analysis
    a. Equipment
    b. Preparation
    c. Process

Appendix D - Supply List Examples

Here are examples of how supply lists were developed and divided among collaborators -

Category	Item	Explanation	Quantity	Hannah brings	CIRC has	Jenny maybe	Hannah maybe
Incubation	core tubes		20ish			*	
	some way to slice the cores	analyze TOC and grain size			*		
	tube plugs with straws	circulation	20	*			
	flexible tubing and connectors	circulation		*			
	peristaltic pumps	circulation	20	*			*
	converter/plug	circulation					*
	power strip	circulation					*
Sampling	glass fiber syringe filters	nutrient sampling	100	*			
	20ml-ish syringes	nutrient sampling	5?	*			
	O2 probe				*		
	thermometer				*		
	pH probe					*	
Sample storage	scintillation vials	nutrient samples	150	*			
	alk vials	alk samples	100	*			
	exetainer vials	DIC samples	150	*			
	plastic bags	core slices + extra		*	*		
	refridgerator space	DIC and Alk samples			*		
	freezer space	nutrient samples			*		
	styrofoam boxes	ship samples home			*		
Miscellaneous	gloves				*		
	extra lables			*			
	tape	labels		*			
	sharpie marker	labels		*			
	test tube rack	glass sample vials		*			
	paper towels	always useful			*		
	various bottles or beakers	always useful			*		
	graduated cylinder	measuring final water vol			*		

This is a shortened example of Hannah's material list. As Hannah and Jenny passed it back and forth, they marked which things they may or may not be able to provide. By the time Hannah packed her suitcase, all of the items were either green or blue!

What	Amount	For	Costs (Budget)	Eilea Knotts/USC	Zoe Finkel/Dalhousie	Notes
Skeletonema sp.		Main Experiment	-	X		Send at least two weeks in advance
Cylindrotheca sp.		Main Experiment	-	X		
Culture bottles (250 mL) VWR® Media/Storage Bottles with GL Screw Caps	8 (2 speices, 4 reps)	Culture Stock	$121.28		X	
Culture bottles (2L)	3	Main Experiment	$145.79		X	
Ethoxyzolamide (EZ, Sigma Aldrich, cat. # 333328-1G)	1 bottle	CA inhibitor treatment stock solution (100 uM)	$60.80		X	
Sodium hydroxide, 50% solution	1 bottle	CA inhibitor treatment stock solution (100 uM)	$90.60		X	Sodium hydroxide 50% in aqueous solution, AR®, Macron Fine Chemicals™, Will only need a few mL but have to buy in bottle (500 mL)
Air pump (Whisper 10)	6	Main Experiment	$50.00	X		
Bubblers (to add ambient CO2 into bottles)		Main Experiment	$50.00	X	??	
pH meter (Advanced pH Meter Kit 97036-028)		Main Experiment	$438.58		X	
Microscope		Main Experiment (Cell counts/volume)	-		X	
Pippett Tips		Main Experiment	-		X	
Pipetter		Main Experiment	-		X	
Kimwipes	1 box	Main Experiment	$2.64	X		
Gloves	1 box (medium)	Main Experiment	$14.41	X		
Tape	1 roll	Culture Stock/Main Experiment	$4.38	X		
Sharpie	2	Culture Stock/Main Experiment	$1.30	X		
Hemacytometer (Sigma Aldrich, cat.. #Z359629-1EA)	1	Main Experiment (Cell counts)	$210.70		X	
Hemacytometer coverslips (Sigma Aldrich, cat.. #Z375357)	1	Main Experiment (Cell counts)	$20.50		X	
Materials/Chemicals required for media		Culture Stock/Main Experiment	-		X	
Materials/Chemicals required for Lipid, Carbohydrate, Protein analysis		Lipid:Carbohydrate:Protein Analysis	-		X	
Materials/Chemicals required for C:N (:P ??) elemental analysis		Carbon:Nitrogen:Phosphorus Analysis	-		X	
Travel Insurance		Fellowship	$60.00	X		
		TOTAL =	$1,270.98			

Appendix E - International Travel Restrictions and Bans (COVID-19 Example)

With the COVID-19 pandemic, international travel [was] limited. Below are links to travel restrictions links that may be useful when investigating travel restrictions and/or bans.

United States

United States Department of State – International travel link and Travel Global Health Advisory link

Statement: “We urge you to check the websites of the relevant U.S. embassies or consulates for information on restrictions, foreign quarantine policies, and urgent health information provided by relevant authorities.”

Canada

Canada Travel Restrictions link

US Embassy for Canada

Sweden

Sweden Travel Restrictions link

US Embassy for Sweden

Australia

Australian Travel Restrictions link

US Embassy for Australia

Israel

US Embassy for Israel

Appendix F - If All Else Fails