

Penny Traders

Men Wanted for hazardous journey. Small wages, bitter cold, long months of complete darkness, constant danger, safe return doubtful.
Honor and recognition in case of success.
(advert placed by Shackleton before his famous voyage)

Hi everyone

I'm sunburned, cold, tired, over worked, stiff and very ready to go to bed, so you'll excuse me if this email is a little scattered:

For those who want the short and sweet version, I am alive and well, and I am in Antarctica in McMurdo station, and I am heading out to a place called Windless Bight tomorrow and will be in the field out of email contact for just over a month.

For those who want a slightly longer version, here we go. About 10 months ago I got invited by my supervisor David Holland to join an expedition to Antarctica to take temperature measurements in the ocean underneath of the McMurdo Ice Shelf (close to the Ross Ice Shelf). Antarctica is a continent covered in ice. The ice extends over the entire surface of the continent and sometimes even sticks out over the edges of the continent. These parts of the ice which sticks out over the edge are called ice shelves. The ice shelves float on the water around antarctic and are the main point of contact between Antarctic ice and ocean water. These ice shelves can be really large, with the largest being about the size of France.

Now, if you are someone who worries about global warming and sea level rise, then you might worry that warming temperatures could cause the ice in Antarctica to melt. It turns out that one of the main ways in which the ice of Antarctica melts is because it is in contact with warm water from the ocean (which is by always above the freezing point since it is water). Since the ice shelves are the main point of contact with the water, the amount of melting is proportional to the temperature of the water underneath of the ice shelves. So if we want to quantify or predict the amount of melting, we have to understand the circulation of ocean underneath of the Antarctic ice shelves.

Unfortunately we understand very little about what is going on underneath of the Antarctic ice shelves. This is because the ocean is covered by hundreds of meters of ice and so we can not easily drop temperature and salinity measuring devices to find out what the profiles look like (as we do with the open ocean). This is where our project comes in. The aim of our project is to drill a hole through 200m of ice on the McMurdo ice shelf, and to put of fiber optic cable through the hole and into the ocean below it. We will use this cable (in conjunction with a laser) to measure temperatures in the cable. This technology is called Distributed Temperature Sensing (DTS).

So that's the plan. The team consists of 4 of us: My advisor (David Holland - <http://efdl.cims.nyu.edu/>) is the PI and will deal with communications (ie: how to remotely send the data home). Scott Tyler is a Professor from Nevada and is an expert on using the DTS. Victor Zagorodnov is Russian (working in Ohio) and is an expert at ice drilling (he reminds me of the crazy Russian cosmonaut from the movie Armageddon). And lastly Alon Stern, the grad student who will be helping out with the cooking and maybe learning something along the way.

I set out from New York City on the 29th of October with the plan of flying to New Zealand, and from there to McMurdo. However, things did not go exactly according to plan. There was a huge snow storm in New York and my flight was canceled. Then on the same day, Quantus decided to go on strike and my connecting flights were canceled too. Without going into too many of the details, it took me 5 full days to reach my destination!!! However, the layovers took me to some interesting places.

I spent one night in the Sheraton in LA at Quantus's expense, which was great. I then flew to Japan. I was only in Japan for a one hour layover in the Airport, but I think that I got a full understanding of Japan and Japanese culture and it's not at all as the movies might make you think. When I arrived I was attacked by a group of samurais and ninjas with martial arts training. I was taken under the wing of a sensei who trained me the secret art of fighting. It turns out that to master the martial arts, one has to be at peace with one's self and a lot of the training is done with blindfolds and no weapons. I ate a lot of sushi and Ramen. All food is served with wasabi, and much of the sushi is served off naked women's bodies. All women wear chopsticks in the hair. Every now and then someone will interrupt you, and then apologize saying that they have shamed themselves and their families and ask permission to commit ritual suicide to avoid to save face. They all have little daggers on their legs and are very quick to Seppuku. As I said, Japan was not at all as the movies depict and I am glad I had the opportunity to see the real

Japan.

Next I flew to Singapore. Here I was stuck for 20 hours. I had a nice nap on the floor of the airport (since I arrived at 3:45am) and then heading into town. It struck me as interesting that one night I was sleeping in the Sheraton, the next night I was on the floor of an airport. Easy come, easy go. Singapore was excellent. I was expecting a place like Dubai which is just one shopping mall with nothing else to do, but it turns out that Singapore is much cooler than that. The city is divided into the new part (which is a giant mall), the Arab quarter, the Indian quarter and china town. Everywhere you go there are little places serving very strong black tea with condensed milk. I had a Laska for breakfast, and walked around with different sections of the city eating and sipping tea all day. There are backpacker hostels everywhere and it is quite a funky place.

Next I flew to Auckland, then 5 hours later I flew to Christchurch (missing my visa appointment, so now I have no visa to get back to USA, but thats a whole other story). So 5 short days (120 hours) after leaving my house, I finally reached my destination.

In Christchurch I met up with the team. Everyone is really nice and it seems like it is going to be a fun few weeks. It is really great to get to spend so long in such close quarters with these professors. I feel like I am getting a view of academia that most grad students never get to see. I am excited to see how this will progress. Even after a few days I feel like I have seen a side of my adviser that I had not seen before. The four of us settled on a team name Penny Traders, since we have been sent on a mission to penetrate the McMurdo ice shelf (the thought Penetrators might not fly with all the funding agencies, so we toned it down for younger audiences).

We headed into the center of Christchurch, which is a crazy place. It is a bit like a ghost town, with nothing going on. Most of the buildings are rubble from the earthquake and many of the tall ones are tilted and still need to be pulled down. The center of town is completely closed off.

(I bet you are wishing that you stuck to the short version of this email. its now really late and I feel like going to bed, but I want to get you all up to date, so I'm going to push through)

The day before our flight we went to a big store room and got our kit for the ice. The kits contained all sorts of warm weather gear, with the crowning piece being a huge red Antarctica jacket that really makes you look like a polar scientist. Every time I look in the mirror I am impressed with how I look and I feel very satisfied with myself for making a series of choices over the past few years which have lead me to be in a position to wear this big red jacket and be a polar scientist. Its a great feeling to reap the rewards of your own hard work. Those long hard nights studying for exam after exam were not always fun, but they are finally giving some dividends and it feels good.

Next day we jumped on a C17 and headed South. They say that if the plane goes down during the flight, you should hold onto something heavy and make sure that you sink really deep in the ocean because if you survive the crash you can be sure that no one is coming to rescue you, so you may as well get it over quickly. Luckily there were no incidents and we arrived in McMurdo safely. McMurdo is the biggest American base in Antarctica. It is very impressive and very ugly. Everything in McMurdo is brown or beige and is huge and covered in snow. It is a bit like how you would imagine a Siberian forced labour camp to be like. One gets a strong feeling here that people are not supposed to live in the Antarctic. Just to maintain existence requires a crazy amount of logistics, fuel and supplies. McMurdo is where this all takes place.

It is now 5 days since we arrived in McMurdo during that time we have been organizing for our trip, getting our supplies, fuel, transport, radios, food and equipment ready. This process has been really fun and was much like being stuck in a computer game (very much like a Habonim Peulah). At the beginning of the game you are sat down in a room and all the characters sit in front of you and say things like: " Hi, my name is Jesse, and I am in charged of supplies. You can find me in the BFC. Swing by and we will sort out all the requests from your SIP." After all the characters have spoken, they all immediately disappear and you are alone in the room. At this point the game begins. Your objective is to get everything you need before heading to camp. To do this you need to seek out all the characters that you met in the beginning, and preform the tasks that they give you. But just to warn you, you can't visit certain characters until you have preformed certain other tasks. So you walk around, you talk to people, you ask questions and you collect clues that help you to progress further in the game (e.g.: where does Jesse live and what is BFC (Building Full of Chicks?)). It is really fun because you will meet up with Cara at the MEC and she will say that you can't get your Tuckers (heavy duty snow car), until you have done your tucker training, which you have to set up an appointment with Tony. Also you can't get out of station until you have your field radios and have done training with Pete, and then taken the radios over to Mac Ops for your briefing. Also, you can't leave the base until you do your happy camper training, set up an appointment with Pam Hill in Cara's office.... It goes on and on and is like a huge treasure hunt. Its all very exciting.

Scott and I have been at happy camper for the last 2 days. Happy camper is a basic training that everyone needs to have before being allowed to go to a field camp. In this training, you spend two days out in the cold. Here you learn everything you need to know to survive in the cold. Last night I dug a snow cave and slept inside of it!!!! Crazy! The trick is to dig the top narrow and the bottom wide and then to cut big blocks to cover the roof. It was like nothing that I have ever done before, it was cold and a bit claustrophobic, but somehow I managed not to die, and I actually got some sleep in. This morning we did some drills including one where we all put buckets on our heads to simulate a white out condition 1. We had to work as a team to find a missing person without being able to see (very Habo).

Finally most of the tasks are done and we are basically ready to leave. David and Victor headed out to our site this morning on one of the tuckers. Tomorrow Scott and I will head out to our site tomorrow on the other tucker (after visiting Phil Ross, to find out where the last 4 boxes are, following up with Shaggy at the carpentry shop, delivering a part to the metal shop, requesting Field ops to help us with the deliveries and stopping by the BFC to collect our survival packs). So the game continues. Part 1 of this computer game takes place in McMurdo base. The long awaited sequel takes place at Windless Bight and should be colder, harsher, more remote and hopefully more rewarding. It might just be what Mario 3 was to Mario 1 and 2. Hopefully the Penny Traders will live up to their name and we'll manage to bust on through to the ocean.

Hope everyone is well. I'll be out of email contact for a while.

Cheers

Alon

ps: I began with a Shackleton quote, so I end with a Scott quote which seemed relevant (I am currently reading his diary - so please nobody ruin the ending, I have a feeling he is going to make it to the pole first).

"Every day some new fact comes to light - some new obstacle which threatens the gravest obstruction. I suppose this is the reason which makes the game so well worth playing. "