

Lab life - Monday

5 a.m. An alarm beeps in the distance, or is it nearby? I feel the bed move as Marco rolls out of bed. I go back to sleep.

5:20 a.m. An alarm is beeping *and* a light is shining in my face. *Why did I buy that light up alarm again!?! I hit snooze and roll over.*

5:35 a.m. The alarm and light is back at it again. *Okay, okay... I'm up.* I shut it off and take a quick peek at my phone. *30 more emails since I checked before bed!?! Ugh – please let them be mostly junk.* I text Marco... “Coffee?”

5:45 a.m. Marco brings me a delicious cup of coffee and a bowl of Scottish oats with fruit and leaves it on my desk. Blessed caffeine! Breakfast delivered – *I'm a lucky girl!*

6:00 a.m. I check my calendar. Any important meetings? People I need to dress nice to see? *Please let it be a solo day in my office that I can be in flipflops and yoga pants for the day.... NOPE. Have to interview a job candidate for some other program at the university. Damn it.*

6:15 a.m. Dressed and ready to roll out. Hugs to Bella and Donato on my way out. “Brush your teeth!!” *I swear these kids are cultivating robust biofilms in their mouths and are going to lose their adult teeth.* “Isabella, brush your hair! You can't just put it in a big knotted ponytail!” She just smiles and laughs – this hard-headed, beautiful girl. I don't know where she gets her stubborn streak from...*snicker.*

6:30 a.m. Ahhh – I arrive on campus in record time. If I had waited another half hour or so, the traffic would have added an extra 20-30 minutes to my commute. As an added bonus, I'm in time to snag one of the handicapped spots in front of my building – so no long trek to the parking garage/construction zone today! *Have they fixed the elevator yet?!? Will they ever?!*

Early morning is the best time to be in my office, a sacred time for writing before the craziness of the day rushes upon me. I flip on my water boiler and pour the steaming liquid into my tea pot. I've come to love Yorkshire Gold as my trusted tea – a habit I picked up this fall while traveling in Scotland with Susanne – my dear friend and fellow ethnobotanist. A cube of sugar and a dollop of milk and it's perfect! I inhale my tea and start typing.

My fingers float across the keyboard as I work on revisions for a paper we need to get out that week. Next on my list is to write a piece of the research strategy for an upcoming deadline – *just 3 weeks left until submission day, yikes!* I get lost in the writing.

9:30 a.m. I start in on responses to emails – somehow even in the past few hours that I've been offline, they've built up from 30 to 60? *How? Why? Argh.* I scan through the titles – any that start with “Dear Sir” or “Dear Madam” get trashed. If they don't know my name – it's

junk. Next comes the pile of emails inviting me to be the honored super special speaker at the next World Congress of Ophthalmology or International Physics Symposium. Yeah – I’m not an eye-doctor or physicist. TRASH. *How do I get on these lists?!?*

Next comes the emails from people trying to sell me stuff. Apparently the vendors think my lab consumes *gallons* of fetal bovine serum. We don’t . TRASH.

Then comes the emails from my students, staff and lab team. I start reviewing data, questions, send responses as succinctly as possible.

10 a.m. Emails are interrupted by a phone call from the microbiology lab. Angelle: “Dr. Quave, the freezer is beeping again and the temperature is rising rather quickly. It looks like Athena is dying... again.” Me: “Is Kate in the lab?” Angelle: “No, she has class this morning.” *Something I manage to forget somehow every Monday morning!* Me: “Ok, can you move the strains to another freezer? Is there one in the common room with space? Or maybe the neighboring lab?” Angelle: “Yes, and yes. I’ve already moved them to the neighboring lab.” Me: “Whew, okay. That’s good. We don’t want 900+ deadly antibiotic resistant superbugs melting on the lab floor.” Angelle with a laugh, “Yeah, that’s true!” *I’ve got to sort something out for Athena.... But the money (or lack thereof) to replace her... argh.*

10:15 a.m. Back at the emails.

10:20 a.m. Phone call from the Phytochem Lab. It’s James. “Did you get a chance to look at the latest revisions on the paper?” Me: “Yes – was just writing you back. We need to beef up the introduction and discussion. Ask Austin to pull together some pieces from the literature for comparison.” James: “Ok, good. Anything else?” Me: “Yes – the fonts on the graphs are all way too small. Can you fix that please?” James: “Sure thing boss.” Me: “Thanks”

10:30 a.m. I hear a knock at my door and my eyes dart to my watch. *How is it already 10:30??* I scramble to clear some of the piles of papers off of my desk and say, “Come in.” In walks the interview candidate with the escort from the other department. We exchange pleasantries and I invite him to sit down. *What was his name?* I discretely click on my outlook calendar to take a peek back at the name and open up his CV. *I can do this – play it cool.*

“So – I see that you have an interest in biofilms. Tell me more about your work.” *Win! He totally misses my lack of prep and goes off onto his standard job pitch. I never get asked for any feedback on what I think of other departmental picks – so I just listen in.* His work is actually interesting, and I get drawn in to the conversation. My role here is to be more of a lure – something bright and shiny to convince him that this is the only place he should come should he be fortunate enough to get an offer. I actually do love it here and think he would be a great fit. I wish him luck on the rest of his visit.

11 a.m. Back to the emails. Inquiries from students interested in ethnobotany. Local ones – I refer to my office hours. Out of town folk I send to Susan to schedule for a call. She’s my new remote “virtual assistant” that I am ever so grateful for! The amount of time I’ve been wasting lately going back and forth recently with students for scheduling a 15 minute slot to talk has just become ridiculous.

11:30 a.m. Core meeting time (and lunch for me - the oatmeal fullness has worn off!). Our core meetings basically consist of the fulltime staff in the lab – James (aka Dr. Lyles – a plant chemist postdoc who manages the phytochemistry lab), Kate – (aka “Kate of the magic hands” – my senior technician and knowledge holder for the many different assays we run), Angelle – (aka Dr. Bullard-Roberts - visiting research scholar and fellow ethnobotanist), Thara (aka Dr. Samarakoon – botanist extraordinaire and collections manager for the herbarium), and Akram (aka – grad student #1 and master of pharmacology). We have a running to-do list of projects underway in the lab, both funded and unfunded. We give priority to the funded projects – but also to those that we think might have a chance at the next round of funding. On our agenda today is progress on the chestnut project (the source of potent quorum quenchers for MRSA) and a new collaborative project with a lab at NCSU on extracts that sensitize bacteria to antibiotics. We have other projects on the list – like our anti-Zika hit that is still on hold until we get the grant funding results back in May. I’m really optimistic on that one – we have an amazing level of activity and from a medicinal plant – but reviewers – especially medicinal chemists – tend to hate our botanical mixtures – a plant extract may contain thousands of compounds – and it freaks them out. So... even with the amazing activity and low toxicity... there’s no telling how things will roll out.

I run through the list – barking out questions in between bites of my sandwich. It’s a crude form of multitasking – but my team is used to it. Sahil – my dear friend who also happens to have a business degree from Harvard – keeps trying to convince me to do “walking meetings”. Although he swears on its efficacy, I would consider it a form of torture if a boss did that to me (to walk fast and take notes and show data at the same time) – so my office remains the spot for these gatherings.

Some of the data looks like crap with high standard deviations. “Is this an assay issue or a hands issue?” I ask. We all agree probably just a mistake in the setup. “Do it again,” I say. “I want layers upon layers of data that convince me that what we think we’re seeing is actually what is happening.”

Next we go over how different students in the group are performing. Are the undergrads on research projects making headway in getting their poster presentations together? Some are, some aren’t. Something else to address at our Friday large group meeting.

1p.m. I race down the hall to the bathroom. *Why are the bathrooms so far away?!* I rush back to my office to get ready for my next call. I leave my door open in my office as I go to grab my watering can. *These plants are pitiful. As a botanist I should do better!* I haven't watered them for 2 weeks! Someone lost and looking for another professor stops to ask me for help, thinking I'm an administrative assistant. *No reason for them not to since I'm the only female professor on this entire MASSIVE floor of offices and labs!* I help him out and send him on his way. I water my plants. At least my aloe looks happy. I'm pretty sure my little palm tree is dead from neglect...but I splash some water in the pot just in case.

1:30 p.m. I dial into the skype business link on the appointment invite. I've got a call with a large company interested in contracting out some research work to my lab. A good thing for me – my last 5 government grant applications didn't make the payline and I'm getting desperate for cash. My big grant – my R01 – wraps up in July – just a few months away... and with no replacement in site, the contract money could be a lifesaver. Just last week I was able to compile all of my spending across the two departments where I run the labs through – and was shocked to find out that my burn rate was around \$22,000 a month! Most of this is for employee salaries and my own salary. Yep – that's right. Professors in the medical school (and in many other divisions) are commonly expected to carry a huge chunk of their own salary on grant money. My job depends on it.

Back to the call... we're getting tantalizingly close. We've met in person 3 times already, and now things are down to the lawyers. I only chime in when needed on this call – they've got most of the info needed already. What's most disconcerting though is that I have no real concept of how much funding this may lead to. I have a huge fear that I've just wasted a big chunk of time for a measly \$20k – which won't even carry us a month. I try to remain optimistic and keep multiple options at play. With the current funding situation, that's the only way to survive.

2:00 p.m. I finally have a free moment to spare to go over to the microbiology and cell culture lab – located just around the corner from my office. I go straight to Athena. Damn. She's definitely dying. I ask Kate, "Did you try any of the regular tricks? Clean the filter?" She shakes her head, "Yeah – we tried it all. She's a goner." I nod, thinking to myself I shouldn't be surprised. This -80 °C freezer was a hand-me down from someone that she'd already been a hand-me-down to. She was probably built in the late 1980s – maybe early 1990s at best. "Okay, what's this going to cost us to replace?" I ask Kate – knowing that she would have already run the numbers. She's efficient like that. "Well, for a model similar to Athena – a simple and small flip up lid model – we're looking at around nine grand." *Shit.* In my head I'm thinking back to that burn rate chart – I can't dig in too deep to my remaining startup account because I'm already down to what is needed to carry Kate and I in salary for one more year – we were already at bare bones in budget.

I consider sending out a Hail Mary call for help to the twitterverse. One of my undergrads, Tracy, chimes in, “Yes – do it and use the hashtag #money”. *Maybe someone will help – but probably not.* I take a picture and post on the lab twitter page: “Athena, our old -80C freezer, is officially dead :(Desperately need replacement - costs \$9k - #donations welcome!! #superbug #MRSA #money”

We can't leave our huge library of deadly superbugs in the neighboring lab's freezer for long. But, I have to push the worry aside to deal with the next issue of the day. The lab database... or lack thereof. Back to the office.

2:30 p.m. Back at my computer, I'm starting to finally make some progress into the database design. I'm building the system from the ground up using Filemaker. I'm no computer genius or programmer – but I do know how the lab is organized and more importantly I can envision how I want inventory and data entry to be managed moving forward. The larger we've become, the more it has become apparent that our simple file system and series of hundreds of Excel spreadsheets just isn't going to cut it anymore. We have multiple types of inventory to manage – the kilos upon kilos of raw, dry plant materials; the freezers of 1000+ different plant extracts, the freezer of 900+ superbugs... and then the data... lots and lots of data from all of the screening studies we've been undertaking. If there is a bad bug in the news – you know the type that is pan-resistant and gives you nightmares just to think about it – there's a good chance that we've got a copy of it and are scouring our library of plant chemicals for drugs that work against it. We've been productive as hell – and are making great progress – but the money doesn't always immediately follow to sustain this momentum. This is an issue that worries me constantly.

3:55 p.m. I get my first student that shows up to office hours. Office hours end at 4 p.m., but this student doesn't appreciate the concept of schedules. I'm so tired already from the day so far that I let it pass and talk for about 20 minutes, when the answer I gave in the first 5 minutes should have sufficed no I don't change grades and the reason you got a B instead of an A was clearly described in the comments and detailed in the assignment rubric. *Argh.*

4:30 p.m. I decide to go outside for a few minutes of sunshine. I'm tired, stiff and cranky. The outdoors do a world of good and then it's back to the computer. I struggle at first to get back into the groove of my database work, but soon lose myself in it.

7:10 p.m. I get a text from Marco – dinner in 20 min. I head home.

7:30 p.m. The kids don't have soccer practice today and so we're able to have an earlier dinner. I grab a glass of wine and sit down to a beautiful Italian meal – one of the many perks of being married to an Italian who loves to cook! All three kids start talking at the same time – all eager to tell me about their days. Our dinner table is a bit of beautiful chaos.

Rich aromas of food.... lots of Italian-style gesticulation (hand waving!) and one trying to talk over the other. There is joy there though. It brings me back to center. My 95 year-old Granny that lives with us tells me about her new theory on the aliens among us and spends a good 5 minutes trying to convince me that it is true because she saw it on the History channel. Marco and I talk about the upcoming fieldtrip info for Donato and the lineup of soccer games for the weekend. With both Donato and Bella playing, we often have to split up the drives to games as they sometimes play at the same time and on different sides of the city.

Near the end of dinner my youngest and middle both veer for spots on my lap. Isabella – now 9 – is a handful to hold in addition to her 4 year old brother, but I do my best to snuggle with them both as I know the day will soon come when it's no longer "cool" to sit in mommy's lap. My oldest- at 11- has reached this stage. Although sometimes I can still get some snuggle time with him when the other two aren't around.

Giacomo begs me, "Mommy tell me a story". It's an evening ritual of ours. Not content to wait until he gets to bed, we tell stories at the dinner table. "What kind of story?" I ask. "One about a big monster and a firetruck and a doggy," he says – waving his hands with enthusiastic gesticulation.

"Hmm... once upon a time there was a little boy named Peter who drove a big firetruck." I begin. "No, no, no..." he says with a dramatic flair, "Giacomomo drives the firetruck and saves the doggy from the monster". "Aha," I say. This is the game we play – he loves to direct the course of his stories. And so I go on to tell a titillating story of Giacomo the heroic firefighter and his great journey to save the doggy from the bad monster. He smiles at the end and I give him a big kiss.

Marco says, "Okay – bed time." and I add, "brush your teeth and your hair!" and they scurry off.

9:30 p.m. All of the littles have been tucked in to bed and Marco, bless him, is taking care of the kitchen cleanup and loading the dishwasher. I make my way down to my home office computer to write again... on this book.

11:37 p.m. I'm running on low battery – my body – not the computer. So I save the file and grab a shower.

Midnight. I check my alarm and my calendar to see if I need to be anywhere other than my office in the morning. I do – I'm supposed to be the morning story time reader in Isabella's class. I'm so glad I checked because I missed it once already this year and she was upset about it. I flip on the TV to watch the first 10 minutes or so of the Daily Show before falling into a restless sleep. My right leg is aching again.