

260410 Meeting Minutes

Attendees: Alyssa Player, Jaasiel Alvarez, Kate Malecek, Tasha Cammidge, Chris Kalaw, Tuyako Khristoforova, Linda Mondaca, Raj Mukkamala, Allen Lee, Maddy Adolph, Olivia Finney

- This month, [RSVP here](#) to order catered food from [Corner Bakery Cafe](#)! (**please RSVP by Wednesday 9am**)! **Please remember to bring your laptops and bring your biodegradable/compostable items for our test.** For bonus sustainability: folks can bring their own cups and/or utensils and/or plates as an alternative to our usual compostable ones!

Will update [Restaurant Guide](#) and our [Coffee, Breakfast, and Dessert Guide](#)

Introductions ...

[Million Advocates for Sustainable Science](#) Petition

- International Institute for Sustainable Laboratories (I2SL) along with My Green Lab are petitioning to change funding granting agency policy to promote sustainable research
- By signing the letter you can help transform how science funding organizations set expectations for efficiency, resiliency, and sustainability in the way scientific research is conducted
- Reached 1100+ signatures!

UPDATE: Green Labs Quarterly Challenge: The straw test!

- Anyone have an update?
- Winner is Albert Zhou!
- Let me know how it goes, and what else you notice you're refusing!

New quarterly challenge: Energy Savings!

- Ever wonder how much energy your lab uses?
- Sign up to get a FREE energy monitoring sensor and see!
- Email (greenlabsinfo@caltech.edu) to request a sensor!
- Plug in your sensor and monitor baseline energy usage and consumption of your equipment.
- If you want to reduce your energy consumption, talk to your lab about changing lab behaviours (like turning off equipment after use) or set up the timer feature to turn off the equipment overnight!
- Save energy!
- **There will be prizes**
- A different lab will be highlighted on our website every quarter
- **Submit to greenlabsinfo@caltech.edu by July 1**
- Anyone want one?
 - All labs present want at least 1! TC will reach out and hand them out next week once IMSS finishes the setup

Green Labs Monthly Tip: Engagement!

- Come check out one of our Sustainability Events!
- Weekly composting tabling
- Green Labs Lightning Talks
- Campus Walks
- Movie Nights and Orchestral Performances
- Resource Fair
- Clothing Swap

- Plant-Based Food Sampling
- [Scavenger Hunt!](#)

Learning opportunity – Lightning Talks

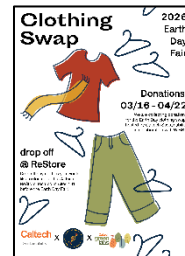
- Lightning Talks: Do you want to present on a sustainable initiative? Do you want to attend?
 - [RSVP now for our 2026 Lightning Talks From 1230-3 \(talks start at 1\) in Chen 100 April 15!](#)
- Student showcase: Interns are competing in the April Student Showcase ([Register](#) to watch the Student Showcase April 17)

Updates

- **32 Certified labs!! WHOOOOO**
 - Please get CERTIFIED TODAY! To get certified, finish the easy, 30-minute [Green Labs Certification](#) and submit it to sustainability@caltech.edu.
 - Certified Labs-exclusive event planned for April!
 - We have a FREE LAB RECYCLING PROGRAM STARTING IN NOVEMBER!! – you can recycle pipette tips, conical tubes, and more!
 - So far our first month diverted 40.5 kg clear plastic and 6 kg coloured plastic

Updates on our Student Interns

- Does anyone want an energy assessment or fume hood sensor? Reach out to us!
- Writing both projects up as white papers before the summer
- Hosting a clothing swap with WiBBE March 16-April 22
- I2SL Conference Abstracts:
 - ReStore
 - Tasha Cammidge
 - Energy and Fume Hood Projects
 - Ansh Tiwari
 - Rohan Bhattarai
 - Competing in the April Student Showcase ([Register](#) to watch the Student Showcase April 17)
- I2SL Lab Program Awards
 - ReStore



Reporting

- Preparing the 2025 Annual Report
- Starting the 2025 Scope 1-3 emissions analysis now
- NEED PHOTOS!

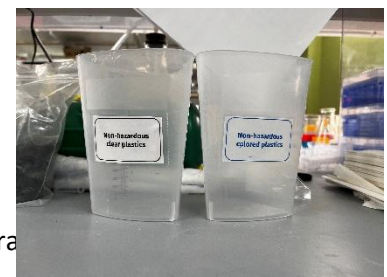
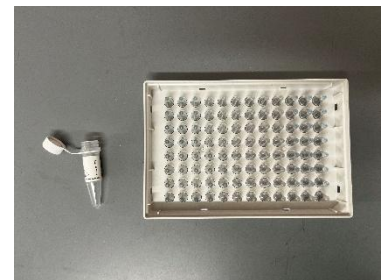
Updates – Pilot Programs

- FUNDING IS AVAILABLE – SEE PILOT PROGRAMS WEBSITE
- May 6– Styrofoam recycling day
 - [Sign the petition!](#) [Technical bulletin from I2SL](#), [LCA of Styrofoam](#)
 - [Do you want a location added? LET US KNOW!](#)
 - [How to do LCAs](#)

- Pipette tip pilot is now a Caltech-run program
 - Now accepting all brands!
 - Over 1 dumpster full the first 2 weeks!
 - Do you want a location added? LET US KNOW!
- Lomi
 - Moving to giving dirt to Catalina Compost
 - 1,055 lbs of dirt (or 5,276 lbs food waste) – hasn't been collected yet for last month!
- -70°C/-80°C Comparison Pilot
 - 5 labs involved, collaborating with NIH and UVA + Norway labs collaboration
- Investigating animal bedding composting... more to come on that soon!
- PolyCarbin
 - Initial order replaced 31 pounds of crude oil and reduced 122 pounds of CO2E via sustainable procurement
 - 21 labs have bins installed!
 - So far our first month diverted 40.5 kg clear plastic and 6 kg coloured plastic
- Fume hood sensor project
 - Around \$1,300 savings per fume hood on average!! GG writing up now for our 21 fume hoods
- **Grenova pipette tip washer:** looking into funding options!
 - [Survey](#) for pipette tip types, cost per year, etc. to gather data
 - Looking into funding options
- Marketplace
 - **\$195,000** (1,700 kg) diverted
 - **\$5,210** (92 kg) donated to local schools (so far!)
 - Open house rehomed **\$96,000** in just 1 day!
 - Over \$93k of supplies and \$200k of equipment online!
 - Sustainability website launched in February
- [Follow us on Instagram](#) →

Albert Zhou – Polycarbin in the Parker Lab - Guest speaker!

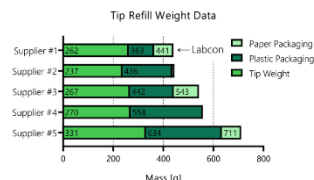
- Outline
 - Our experience with Polycarbin
 - Strategies for encouraging uptake
 - Recycling waste audit
- Participating in the polycarbin program
 - Really easy set-up
 - Good experience with timely collections
 - Excellent uptake
 - Great way to see how much/what waste we're generating
 - Challenges: mixed plastics – TC will follow up with rep
- Encouraging uptake of the polycarbin program in the lab
 - Helping lab members feel confident about recycling
 - Making it easy to participate – put the bins -> onto benches so Lab members could sort at the bench
 - Sharing progress in the lab Slack
- Recycling waste audit
 - Purpose: better understand what and how much waste we generate we're sorting clear/color plastics



- Sort clear plastic waste by type (tips, 0.2mL tubes, microcentrifuge tubes, etc.)
- Separate noncompliant plastics & document -very few mistakes
- Waste audit results
 - Lots of pipette tips and LOTS of small petri dishes
 - Some plastics had residual chemicals in them, so lab is doing better about uncapping and making sure the tubes are clean before putting them in the bins
- Insights from the recycling waste audit
 - Excellent compliance overall + information on what best practices to reinforce
 - Informs purchasing habits
 - Motivation to switch to reusable alternatives where budget allows
 - Incentive to continue pursuing adaptive reuse of certain plastic waste
 - For example: the lab uses 50 mL conical tubes to store food for beetles
 - Before audit they were using clean tubes, but now are using ones that only held water or ethanol that are virtually clean
 - For example: petri dishes are used for beetle experiments
 - Now instead of using larger clean petri dishes to raise flies (food for the beetles) they use these experimental petri dishes
- Questions?
 - TC: did these changes come up AFTER the audit or before?
 - AZ: The animal storage containers was something they thought of before, but the petri dishes were an outcome of the audit
 - JA: any pushback from your lab about the bins?
 - AZ: No, lab was excited and glad TC could present to explain the bins and set them up etc

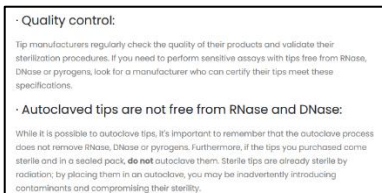
Lab plastics update

- Poll: how many folks use tip refills? What brands:
 - JA: rainin or thermos
 - AZ: genesee or USA Sci
- For 200 uL tips
 - A single tip weighs 0.33g – 31.68 g
 - Box on average weighs 100 g
 - Even if you reduce tip usage by 50% it still only equates to 12% of all plastic
 - Refill systems weigh 176 g (including packaging waste) for 10x 96 tips vs 1000 g+ for traditional box setup of 10 boxes
 - If we use 3 boxes a day 3x a week
 - Traditional system is 5-40kg waste per person per year
 - With refill systems could be 0.89-7.1 kg waste per person per year
 - Some refill systems result in 72%-243% more plastic waste depending on the brand



- A question from last week : most tips don't need to be autoclaved!
 - **If they come pre-sealed and pre-sterilized, they don't need to be autoclaved!**

- Autoclaved tips are also not free from RNase or DNase, though they are free from living organisms
- In fact, most filter tips are not recommended to be autoclaved as the filter cannot withstand the high temperatures – always check with the manufacturer first before autoclaving!



- KM: we autoclave our pipette refills because we were worried the transfer to a “dirty box” or just being on the bench could introduce contamination
- AZ: also autoclave our pipette refills as we have a lot of sensitive assays
- TC: I was not expecting this to be a controversial topic! Would you be willing to test that to see if they are any better?
 - TC will provide funding to do these tests to these two labs!!

Update on open house

- Lester Lab 10-2 on March 19
- \$96,849 (2,300 kg) rehomed
 - This was more than 1300 items
- We had ~55 labs visit with over 100 people attending (many labs sent 2-3 people!)
- Entered \$39,017 into the ReStore post-open house
- Turned off 5 -20 freezers (\$500+ of energy savings!)
- We recycled
 - Over 15 kg of lab plastic
 - ~4 kg of paper
 - ~1kg (40 gallon bin full) of Styrofoam
- Lessons learned...
 - Will do it very differently next time!
 - MA: VERY busy, so many humans, we actually left without seeing everything
 - TC: yes, we would have folks do their own checkouts next time (fill out a form as they move through the space and leave that with us rather than us entering the data manually as people leave), that will increase flowthrough
 - Would label items BEFORE the event, will advertise a little earlier
 - Liked that we did the tables in the hallway
 - TC: a lot of work - took about 40h total start to finish! Will try to simplify that moving forward
 - Was the spreadsheet and photos helpful?
 - MA: yes, we looked through it and came because of what was available
 - KA: how did the freezer shutoffs work?
 - TC: we got a group of old lab members and some colleagues who all worked together to clean them out, partnered with EHS to help with some of the waste removal too
- Another lab closed down at the same time and used the same vendor for the cleanup

- TC: I want to compare the square footage dollar value for the cleanup and see if what we did saved the division any money, too!

Sustainable Purchasing Vendor Vetting

- TC formatted [a canva document with all of our working doc information!](#)
- TC made an email format folks could use, but we're not sure how to gather the data
 - Do labs send out the emails and cc TC or send information to TC?
 - Do we have labs fill out a google form after responses?
 - Do vendors fill out the form after responses?
 - What to do with the data once we have it?
- KM: try to automate as much as possible
- OF: have it available as a spreadsheet with the sustainability information or a ranking etc?
- TC: will people actually read this?
 - Yes
- TC: should this be specific for labs or one general one?
 - Many: general one as the information is generally the same

Next meeting May 8