UCLA Sustainability

Sustainable Ultra-Low Temperature Freezer Steps

General Maintenance

- **Place all freezer units on an annual defrosting schedule.**
- **Place all freezer units on a monthly maintenance schedule**
  - Remove frost from freezer interior
  - Remove dust from intake and coils
  - Check filters to ensure proper working condition
  - Check seals and gaskets to ensure proper working condition
- **Keep surrounding area of all freezer units well ventilated to avoid heat accumulation**
  - Allow for clear space behind and above all freezer units

Temperature and Samples

- **Set freezer temperature to -70°C rather than -80°C**
  - Maintains sample integrity while reducing energy consumption
- **Optimize sample organization within freezer**
  - Clearly label samples and maintain inventory with previous temperature and usage records
  - Place more highly used samples towards front of freezer
  - Minimizes open-door time
- **Fill empty spaces with polystyrene ice; avoid large, empty spaces in freezer**
- **Implement high-density storage and vertical rack systems**
  - Use 13x13 dividers and/or smaller tubes to increase storage capacity
- **Each month, clear out unneeded samples**

Gold Star Practices

- **Unplug unneeded or unused freezer units**
- **Upgrade older units to energy-efficient models**
- **Implement a barcode inventory system**
  - Assists in sample tracking
- **Implement room temperature sample storage (RTSS) for applicable samples**
  - RTSS can apply to DNA, RNA, plasmids, reagents, and diagnostic kits
  - Increases storage capacity for other samples
- **Share cold storage space with another lab if possible**
  - Optimizes unit space usage throughout UCLA