CIRCULAR ECONOMY OF LABS AT UNIVERSITY OF GEORGIA

STAR SCOTT, UNIVERSITY OF GEORGIA

OCTOBER 15, 2026

GEORGIA RECYCLING COALITION SUMMIT


sugar phosphate backbone
cytosine
deoxyribose
thymine
guanine
adenine
weak hydrogen bonds



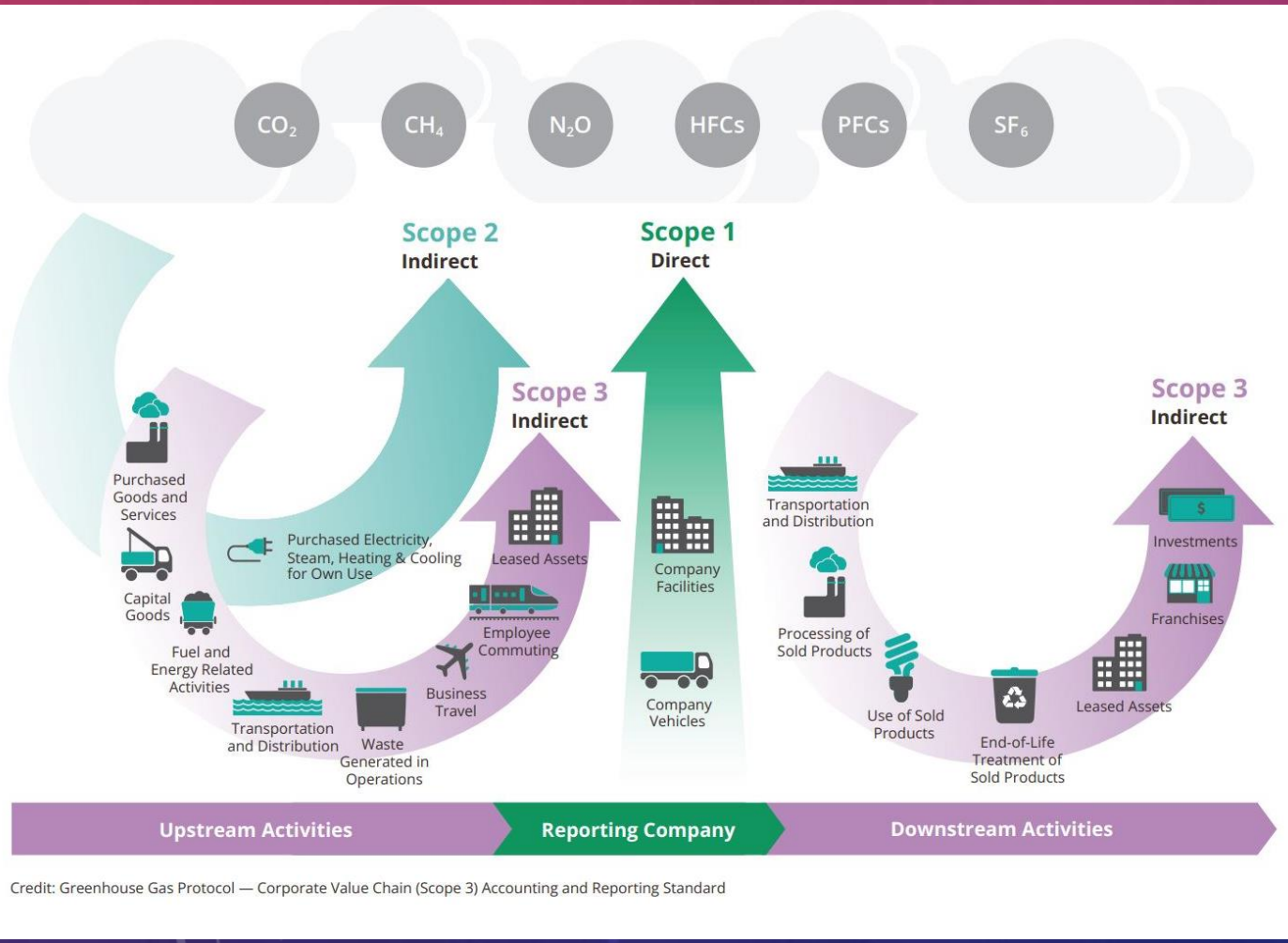








Laboratories Have a Significant Footprint



Credit: Greenhouse Gas Protocol — Corporate Value Chain (Scope 3) Accounting and Reporting Standard



UGA SUSTAINABLE SCIENCE AND GREEN LABS PROGRAM



Created in 2016

Conservative Annual Savings of $189K

Focused on resource conservation, waste diversion, sustainable procurement, equity

1900 Labs on our main campus



Today’s focus: WASTE



Laboratory Waste









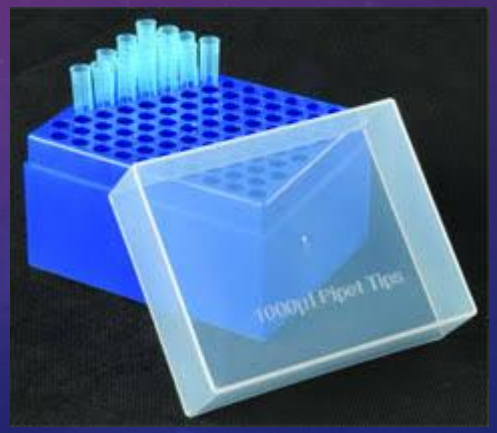






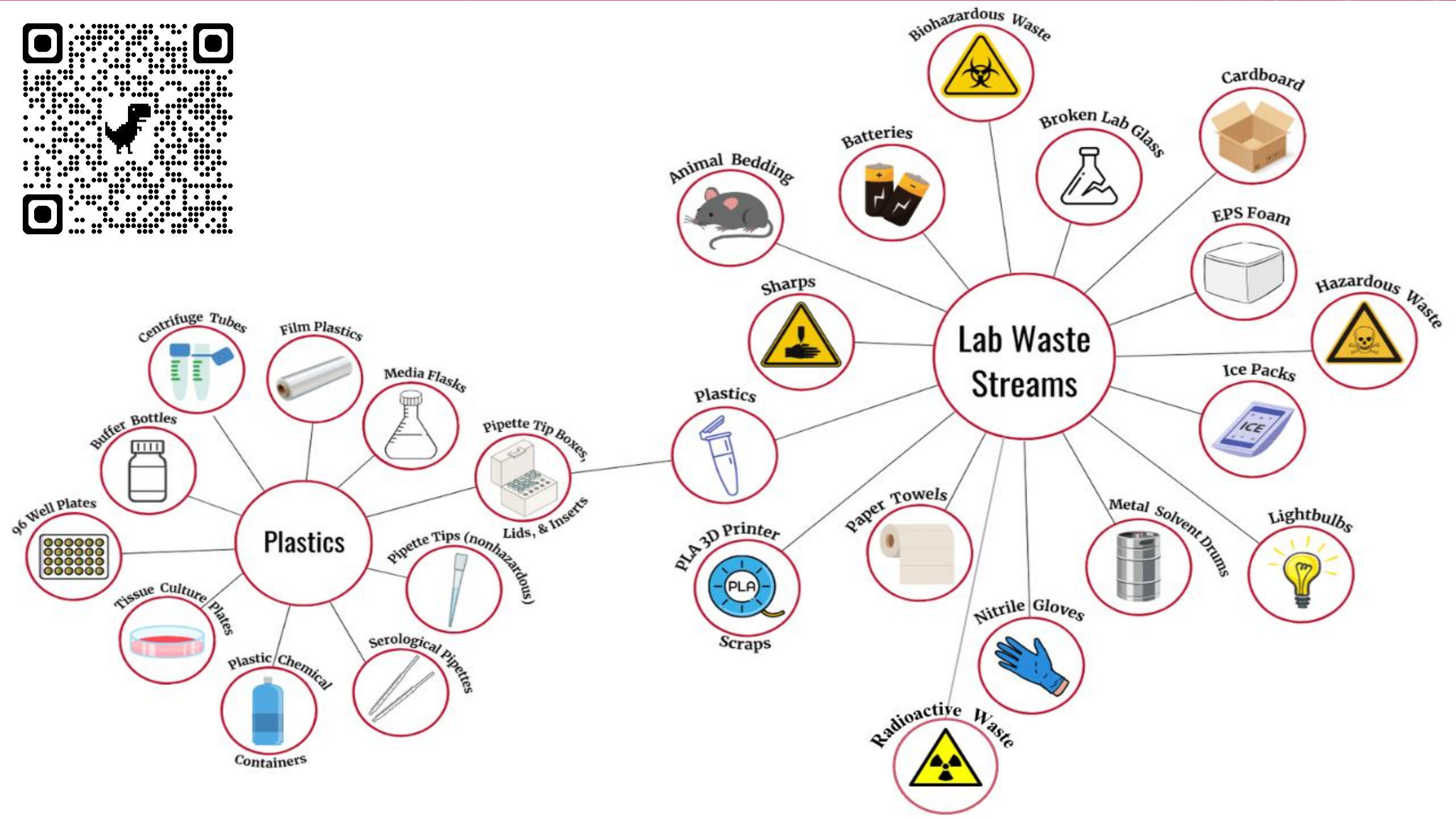






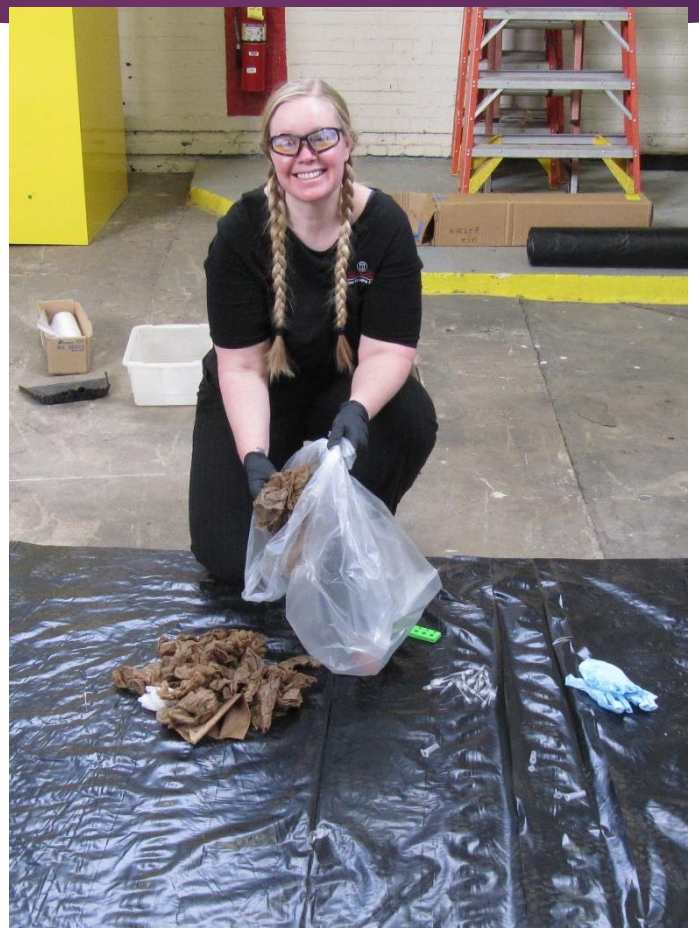


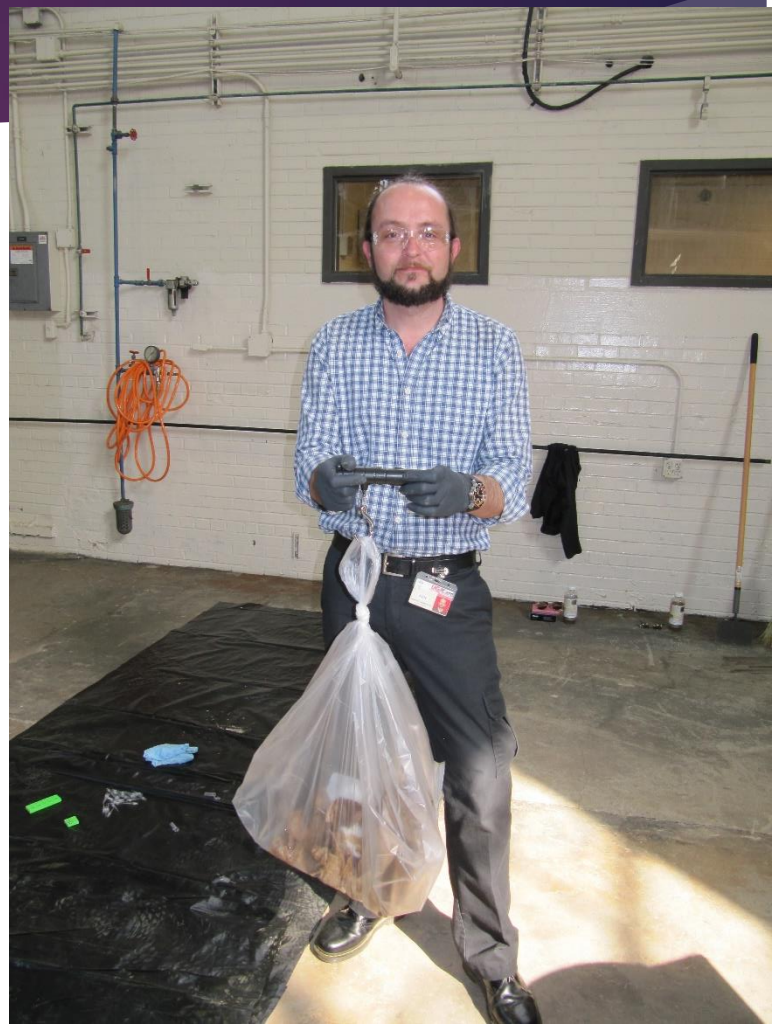
Credit: Star Scott University of Georgia


Lab Waste Streams
Biohazardous Waste
Batteries
Broken Lab Glass
Cardboard
Animal Bedding
Sharps
EPS Foam
Hazardous Waste
Plastics
Ice Packs
PLA 3D Printer
Scraps
Paper Towels
Metal Solvent Drums
Lightbulbs
Nitrile Gloves
Radioactive Waste
Plastics
Centrifuge Tubes
Film Plastics
Media Flasks
Buffer Bottles
Pipette Tip Boxes, Lids, & Inserts
96 Well Plates
Pipette Tips (nonhazardous)
Tissue Culture Plates
Serological Pipettes
Plastic Chemical Containers

Lab-specific Waste Audit

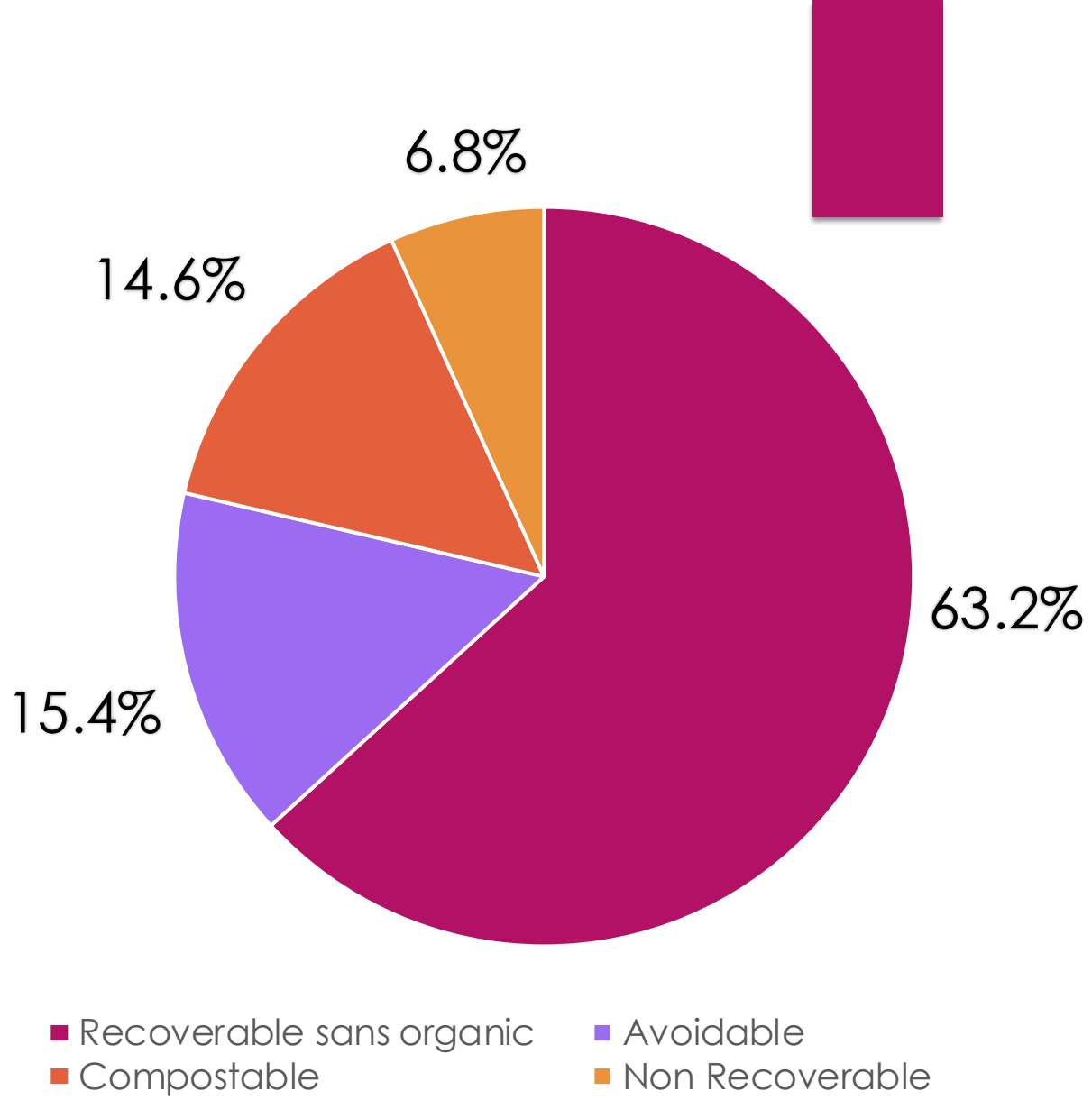
- Spring 2018
- 4 different types of labs
  - Pathology Lab (for profit)
  - Molecular Genomics Lab
  - Plant Pathology Lab (BSL)
  - Plant Biology Lab
- Daily for 1 week
- Labs are ever-changing





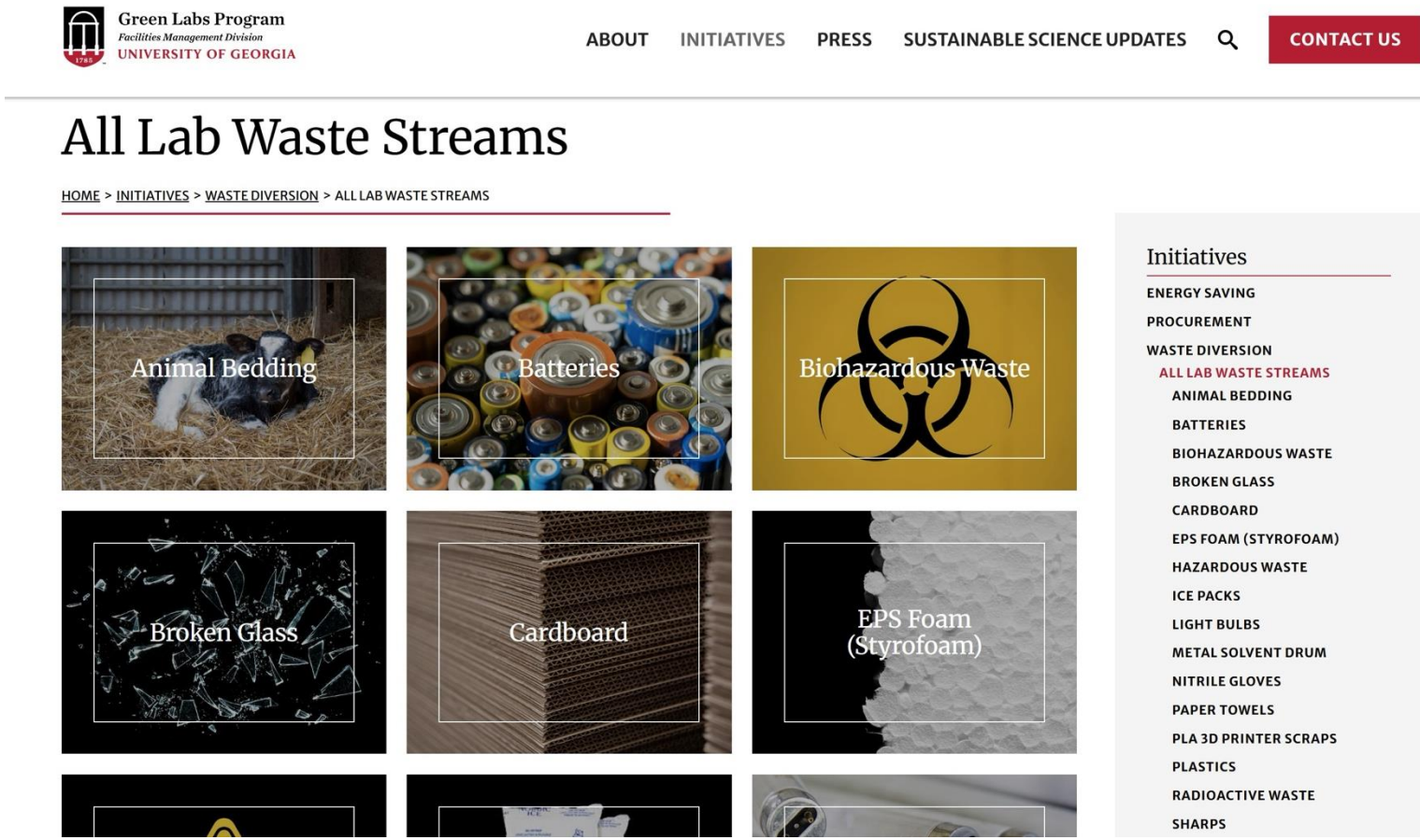
Lab-specific Waste Audit Summary

- Average of 656 g/day/lab
- ~659,482 pounds of potentially-recoverable materials annually
- ~300 metric tons
- 93% of this waste stream can potentially be impacted by existing initiatives



Lab-specific Waste Diversion Efforts @ UGA

- Offer Guidance for All Lab Waste Streams
- Lab Glass Rehoming Program
- Lab-specific Recycling
- Green Chemistry
- Helping UGA be Mercury Free
- Sustainable Procurement



Lab Glass Rehoming Program

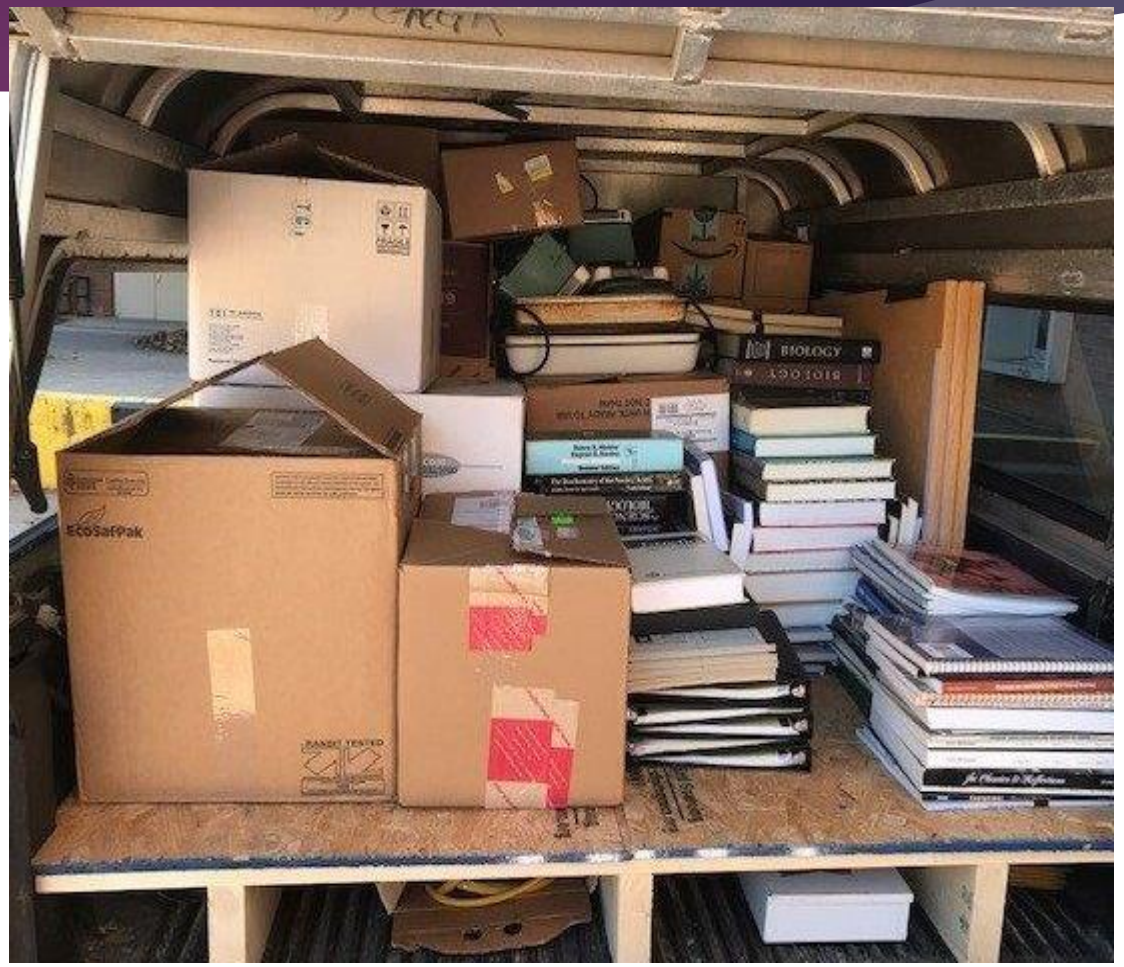
- Partnership between UGA and Athens Clarke County (ACC)
- Keeps useful scientific materials out of landfill
- Serves our future scientists
- Assists underfunded programs
- Optimizes space in UGA research areas



Lab Glass Rehoming Program (More Than Glass!)

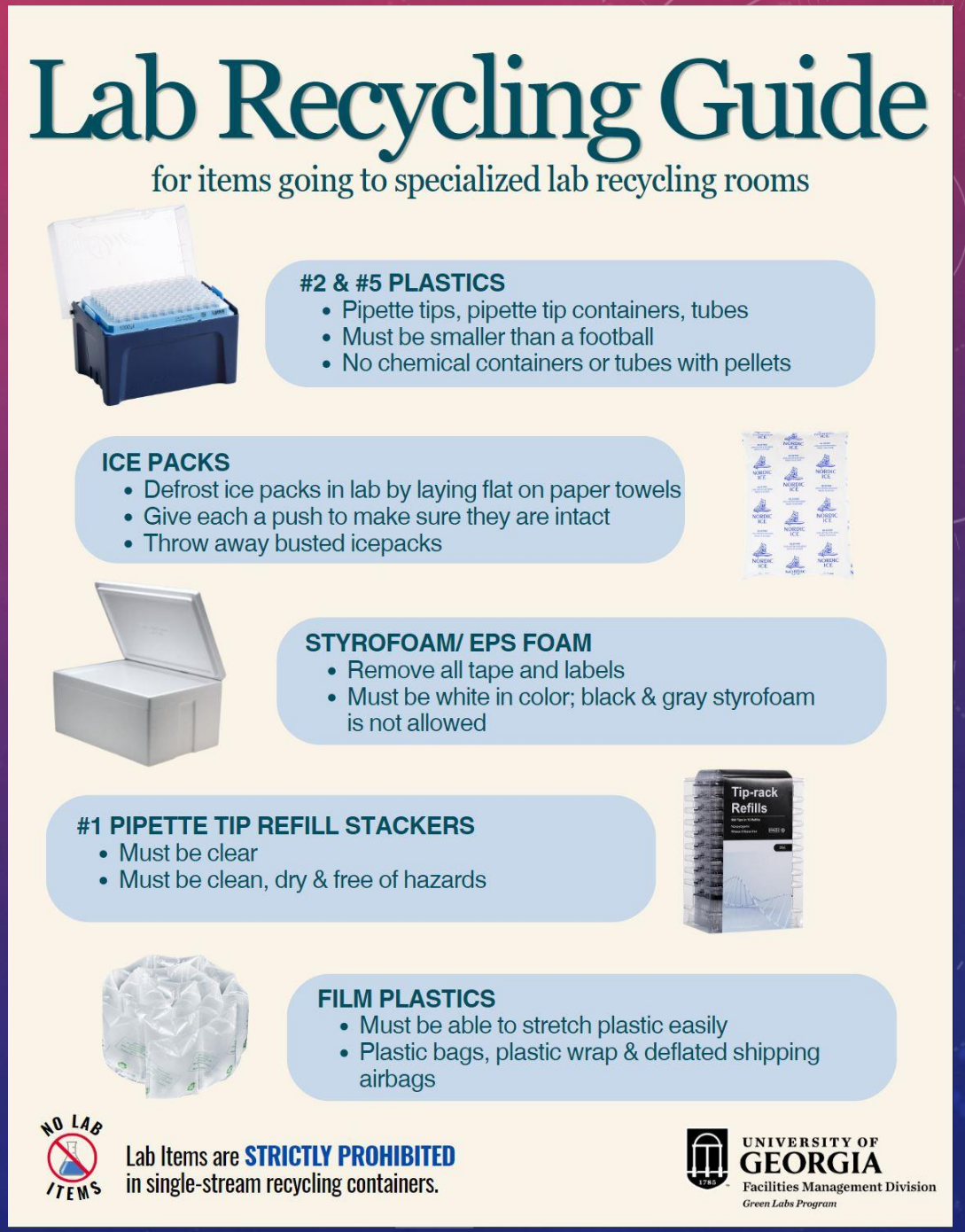


The GRASS ROOTS ERA!



UGA Lab-Specific Recycling

- Researchers MUST onboard
- Requires careful oversight
- Know your culture!
- Two paths:
  - Lab Recycling Rooms
  - Direct to ACC CHaRM (first visit orientation provided)
- High-quality PP



SAFETY FIRST

*ALL items must be clean, dry & free of hazards



Lab Items are

STRICTLY PROHIBITED

in single-stream recycling containers.



NO CHEMICAL CONTAINERS

This can shut down the program or cause regulatory problems.

Accepted Waste Streams in UGA Recycling Rooms:



ICE PACKS



SMALL #2 AND #5 PLASTICS



FILM PLASTICS



#6 POLYSTYRENE AKA STYROFOAM



#1 CLEAR PLASTIC REFILL STACKERS

SMALL NUMBER 2 & 5 PLASTICS



MUST BE SMALLER THAN A FOOTBALL!

ITEMS ALLOWED:

- Pipette Tips
- Pipette Tip Boxes/ Inserts
- Tubes
- Must be clean, dry & free of hazards

PROHIBITED:

- No chemical containers
- No tubes with pellets


IT'S THE
GREAT PUMPKIN
CHARLIE BROWN



Participating Researcher Commitments:

Researchers who choose to participate in the laboratory recycling program are responsible for properly preparing and delivering their materials to the designated recycling room. This includes following all established **protocols for decontamination, sorting items into the correct waste streams, and ensuring that only accepted materials enter the system.** Failure to comply with proper protocol may result in regulatory concerns and violations and jeopardize the future success of the program.

By maintaining the integrity of each recycling stream, you support the long-term sustainability and efficiency of the program.

SUSTAINABLE LAB PROCUREMENT ENGINEERS OUT WASTE BEFORE IT EVER ARRIVES ON CAMPUS

- Review commonly used consumables
- Explore more sustainable options
- Give preference to companies exhibiting greater Extended Producer Responsibility









The Sustainability of Science

How Science Impacts the Environment, and What Can Be Done

Edited by Martin Farley



ROYAL SOCIETY OF CHEMISTRY

THANK YOU!



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GREENLAB@UGA.EDU

Green Labs Program
Facilities Management Division
UNIVERSITY OF GEORGIA

I2SL International Institute for Sustainable Laboratories

Circular Economy for Laboratories Community of Practice

CATERGORIES FOR SORTING

- Paper Towels
- Gloves
- Plastic Film
- Recyclable Plastics (ACC)
- Non-Recyclable Plastics
- Paper
- Cardboard
- Glass
- EPS Foam
- Aluminum
- Organics
- Landfill

Avoidable

Recoverable

Non-Recoverable

Compostable

- Located at ACC CHaRM
- Local teachers can “shop” for free
- School supplies, furniture, bulletin boards, books
- Scientific supplies

