

Green Labs implementation in the Discipline of Anatomy 2025

Green labs is an accredited international program and the global gold standard providing guidance and strategies to enhance sustainability in labs, supporting over 700 labs and over 4,600 scientists from 29 different countries.

Sustainability is an embedded component of Trinity College's Strategy, and Green Labs contributes to part of this. The Sustainability Office has supported over 40 Trinity labs through their Green Labs Certification, with fantastic support in particular from Dumitru Anton, Colleges' Green Lab Officer.

Labs in third-level institutions are one of the most resource-intensive spaces, typically consuming about 10 times more energy and 4 times more water than offices.

Specifically related to the School of Medicine, most world leaders in health accept that the future of healthcare is wholly intertwined with the health of the planet with climate change being one element of that.

The Discipline of Anatomy has signed up to Green Labs with two labs currently engaged in the process; The Anatomy Dissection Theatre Teaching lab, led by CTO Claire Murphy and the Research Lab led by PI's Dr. Melissa Conroy & Dr. Danny Johnston with two highly committed teams, supported by the Head of Discipline, Dr. Denis Barry. Each member of the team has a personal statement reflecting on what Green Labs means to them.

- *“teaching the next generation of healthcare professionals to bring a sustainable ethos into their professional practice”*
- *“To help students learn by combining science with caring for the environment and encouraging a sense of responsibility for the planet”*

Claire Murphy had recently been awarded a certificate in 'My Green Lab Accredited Professional Course' along with 34 others from across the College Community. The course trains individual staff members on every facet of laboratory sustainability.

The process involves focusing on the main pillars of consumption, including water, waste, energy and optimising shared resources. An initial assessment was taken to give the teams a baseline of where they are at. From this, targeted actions in specific areas are being implemented.

Improvements have been made in procurement with accurate inventories ensuring there is no over-ordering and having a large bulk purchase for each Semester which reduces, packaging, goods transport and CO2 footprint. Raising awareness of all streams of waste

generation available in College, especially packaging and recycling bins, using College's 'Reuse & Repurpose' community group before disposing of or purchasing new items. Using College's LabCup inventory system for chemical purchase and sharing, closing fume hood sashes, monitoring and minimising plug load, reducing ultra-low freezers from -80 Celsius to -70 saving ~20-30% in energy costs. Ensuring all machines are powered off not just left in standby mode. Estates & Facilities have recently completed an upgrade of lighting in Anatomy & the School of Medicine in TBSI replacing fluorescent bulbs with LED saving a phenomenal 50% in energy consumption and halving the lighting electricity bill for these areas, helping College towards its 51% CO2 GHG reduction by 2030.

Bringing our cohort of undergraduate students on board and having them fully engaged and part of the Green Labs initiative is a huge part of the journey. The single most significant measure is instilling awareness of appropriate glove usage in the Anatomy Dissection laboratory. Hospitals have had great success with glove usage campaigns, our aim is to ensure our UG have that practice embedded along with other sustainable laboratory practices before they progress to their clinical placements.

By creating sustainable lab behaviours, it is a small contribution that supports a culture shift in positive habits and actions promoting sustainable lab and healthcare behaviours, ensuring the Discipline aligns with the School of Medicine and College's sustainability initiatives.