

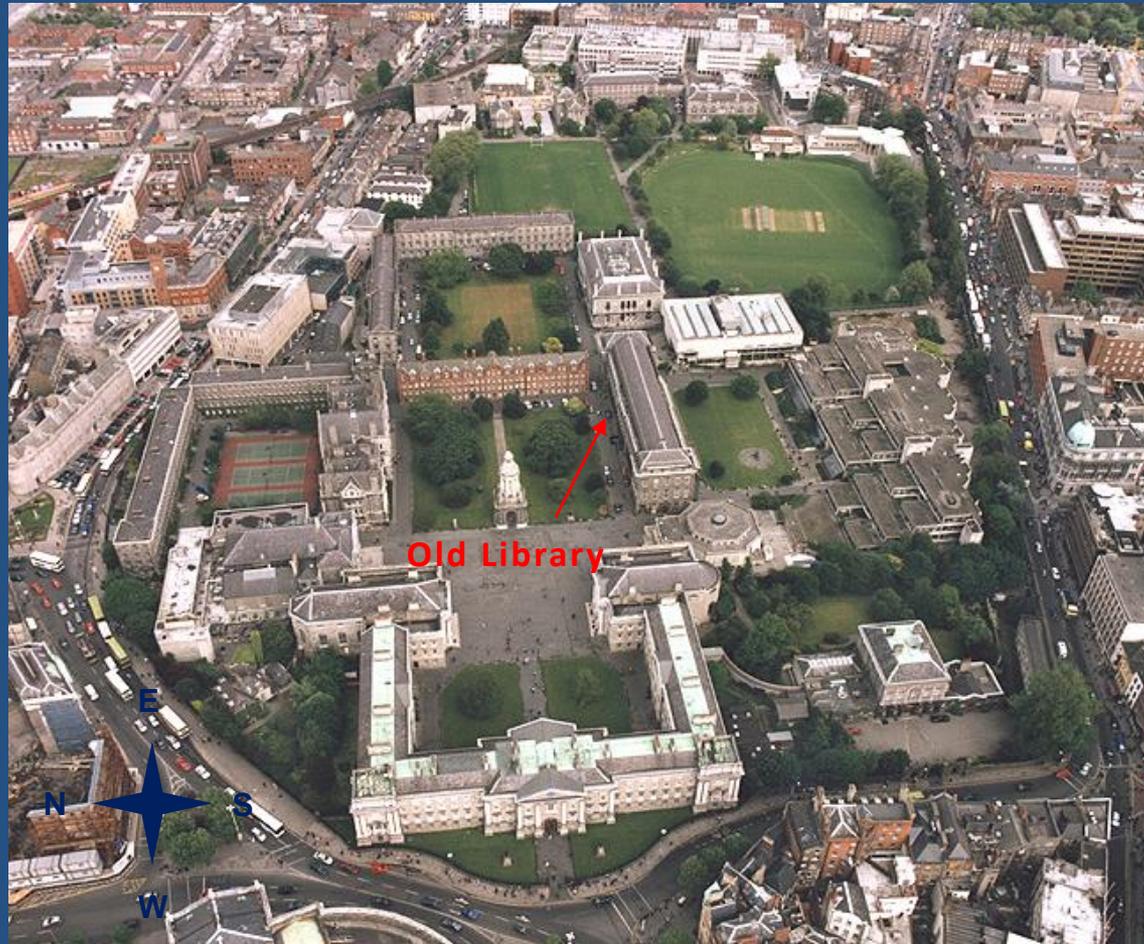
Patterns of soiling in the Old Library Trinity College Dublin



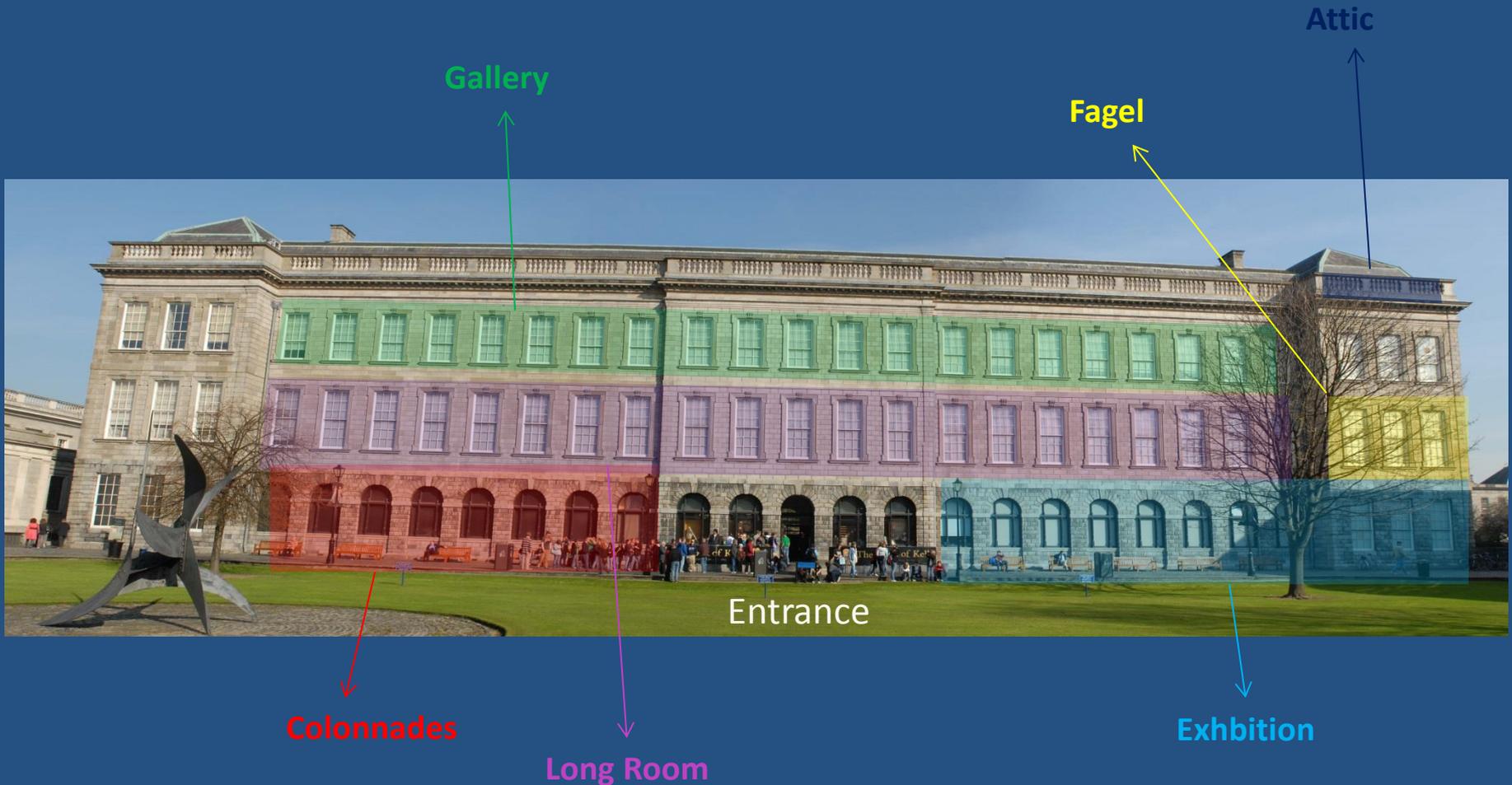
Allyson Smith, Robbie Goodhue, Susie Bioletti



Trinity College aerial view



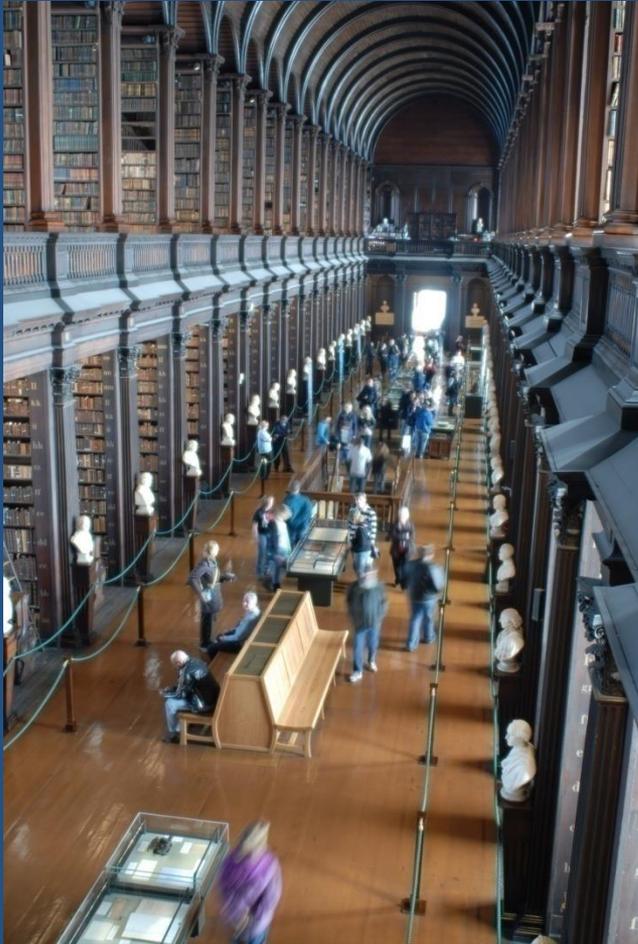
Old Library main (south) elevation



Old Library visitor route



Deposited dust



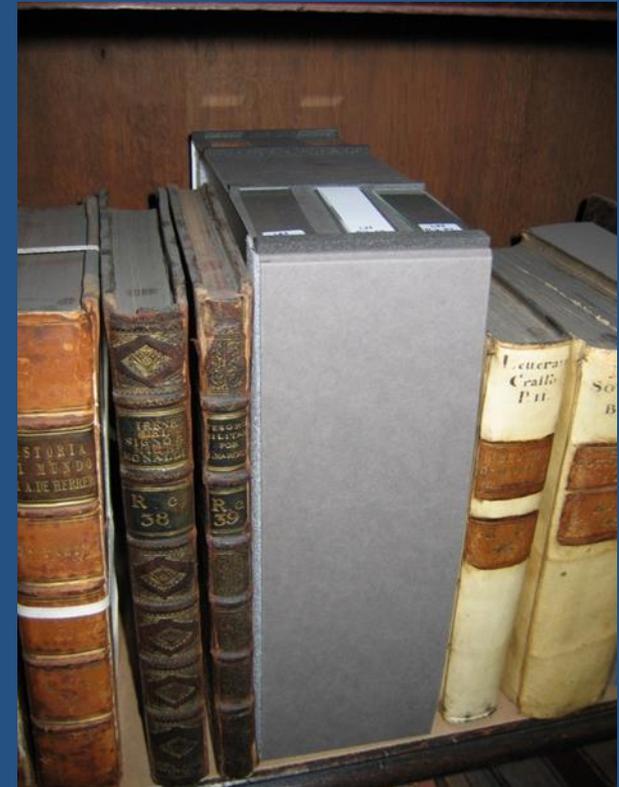
- Monitor accumulation rate
- Assess the patterns of distribution
- Characterise dust and attribute sources
- Identify ways in which soiling could be reduced

Measuring 'loss of gloss'

Rhpoint Instruments Novo-Gloss Trio™

Measures an elliptical area of 10 mm x 20 mm at 60°

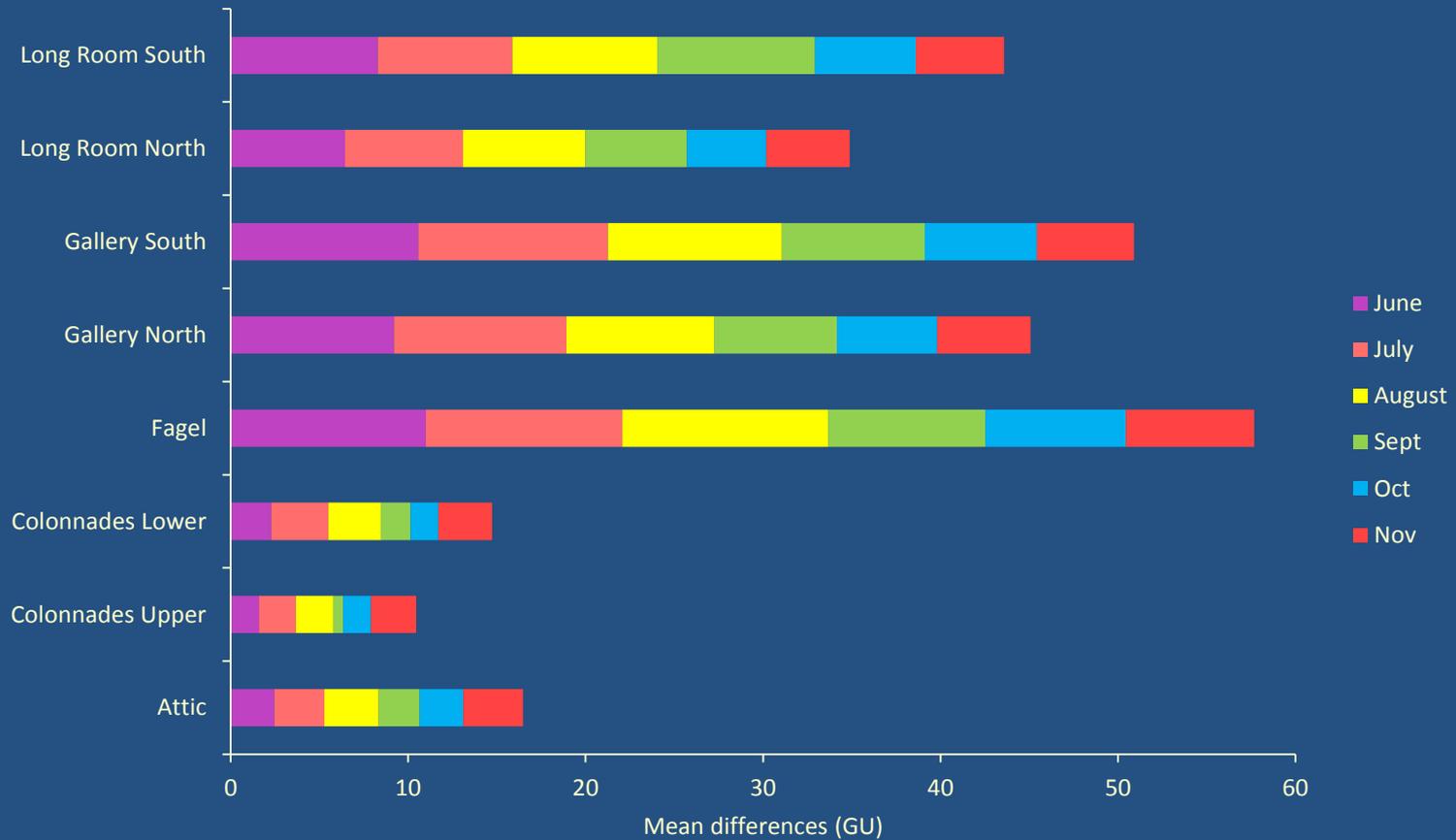
Difference between clean and dirty = Loss of gloss (GU)



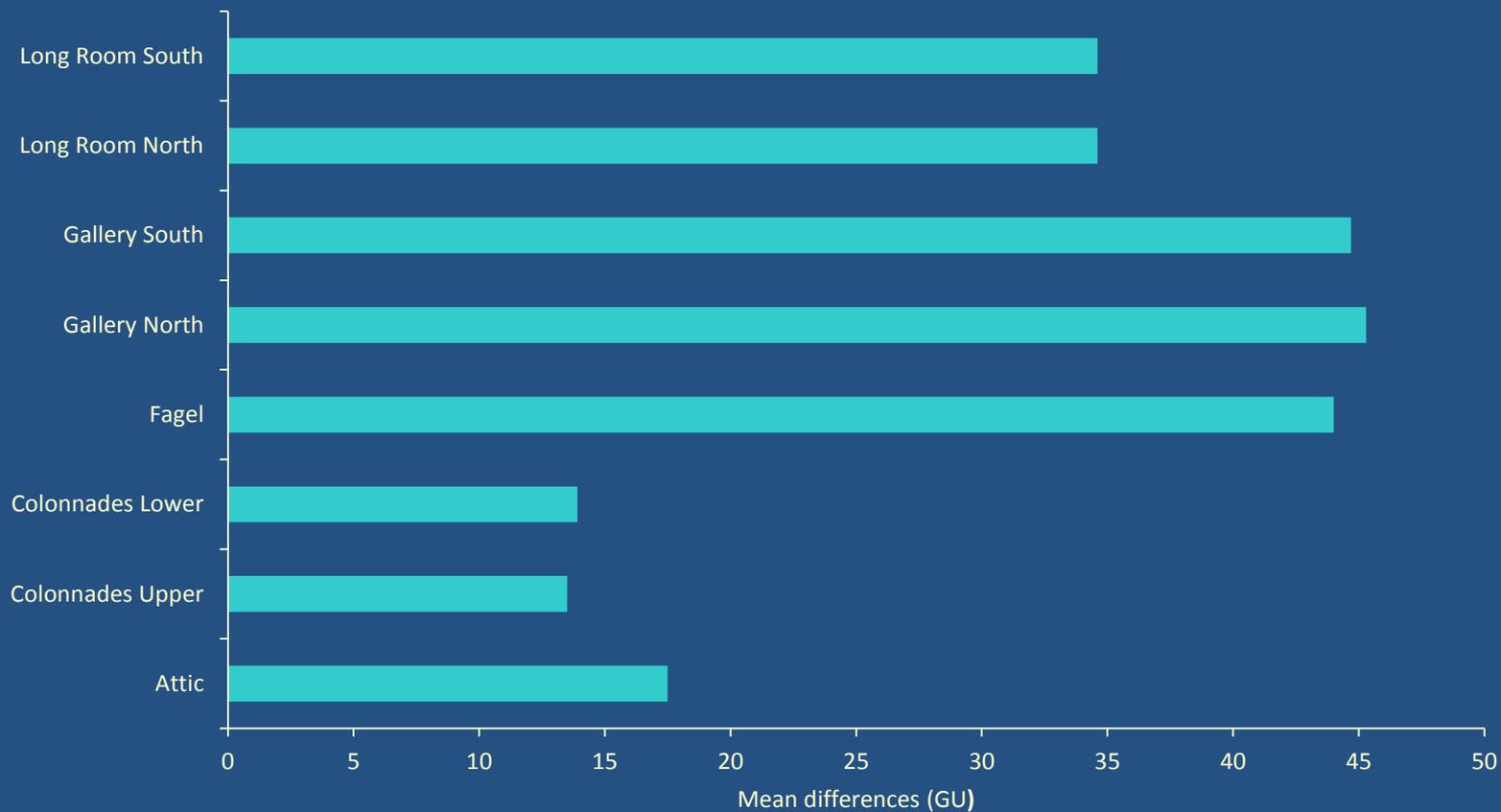
Long Room North, Bay R

Passive dust collection

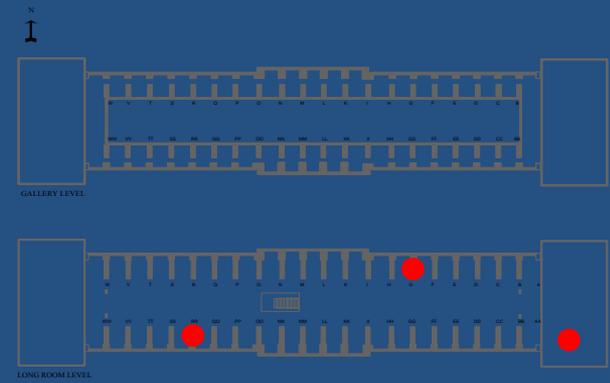
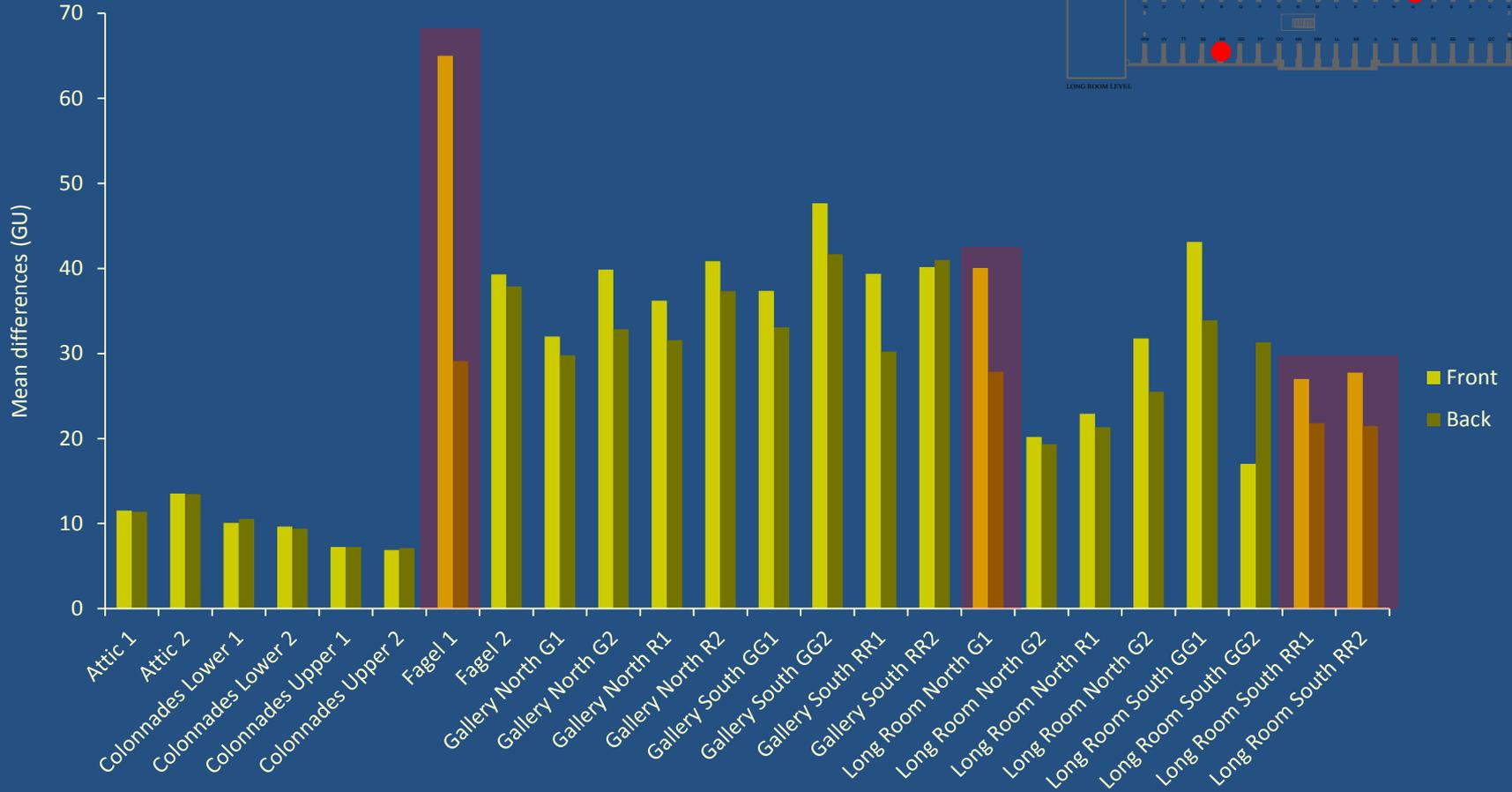
Mean differences by month June – Dec 2010



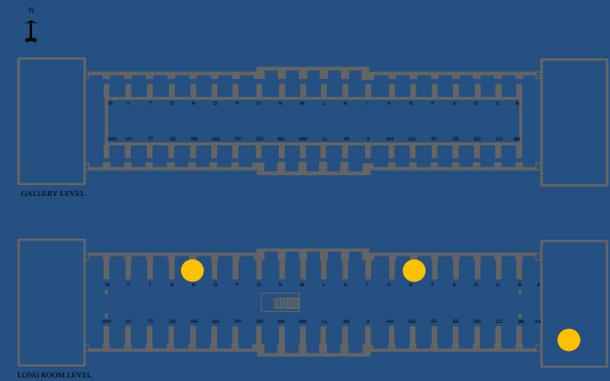
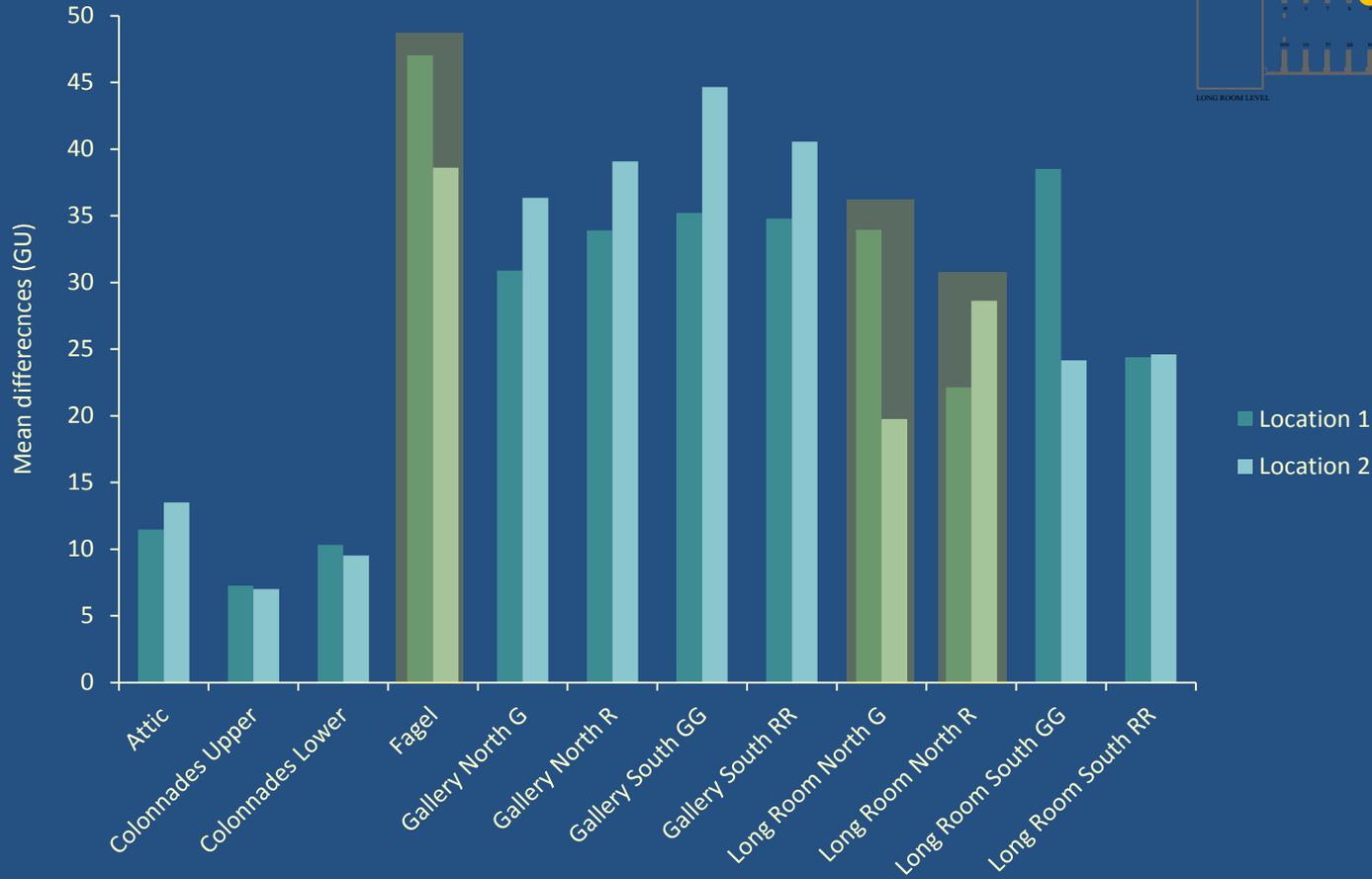
Mean differences after 12 months Oct 2011 – Oct 2012



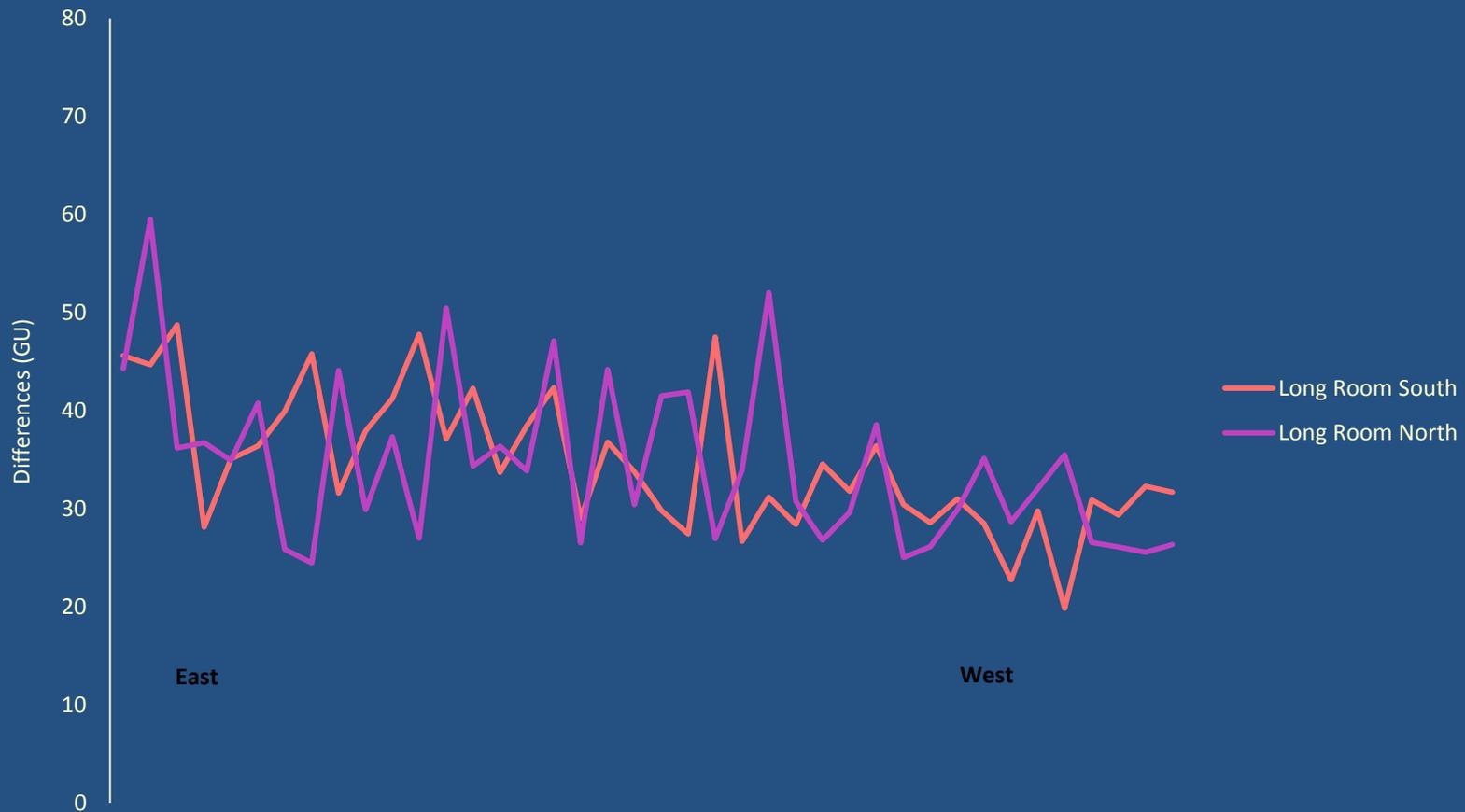
Front and back of shelf (June –Dec 2010)



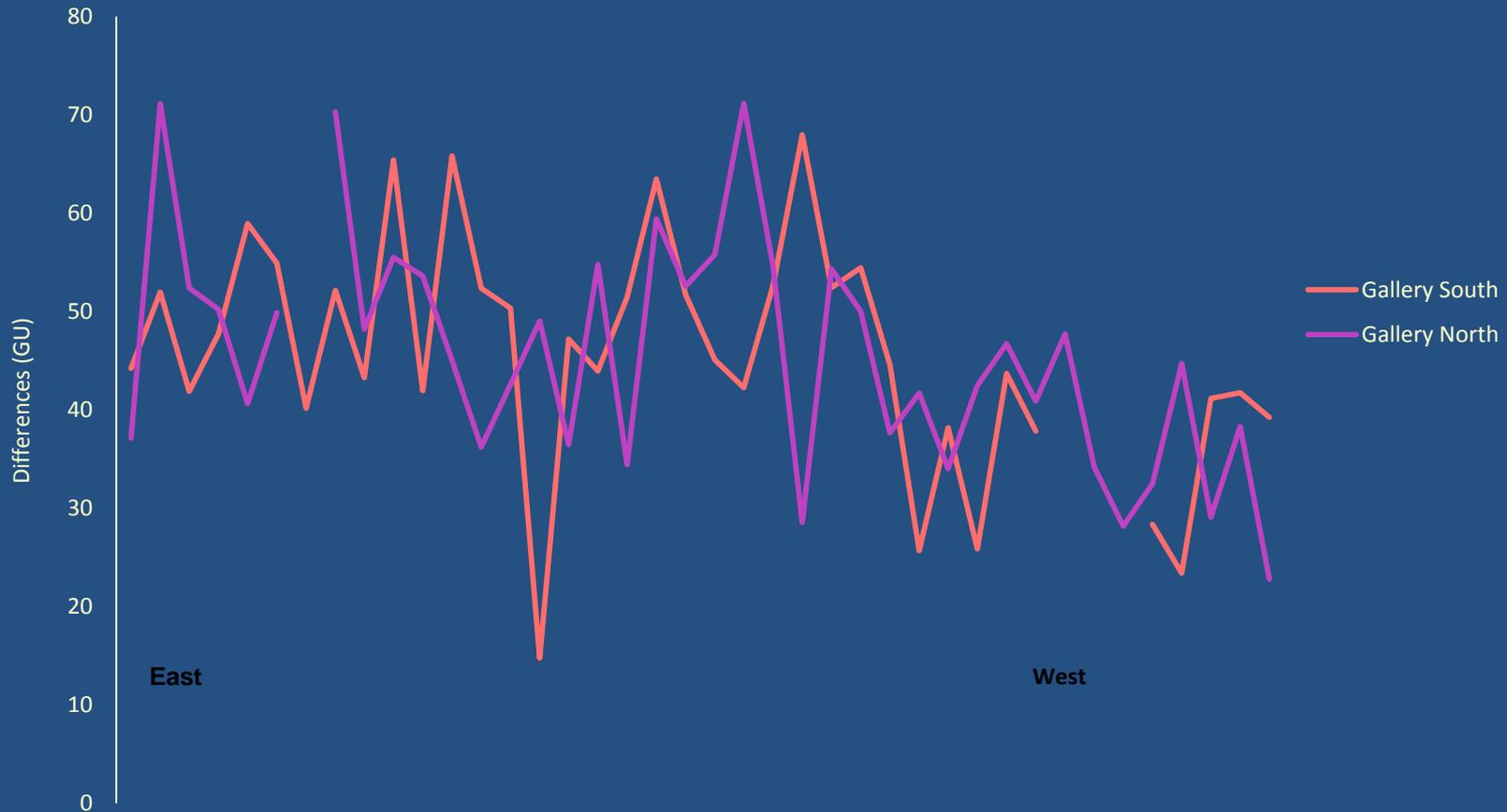
Along shelf (June – Dec 2010)



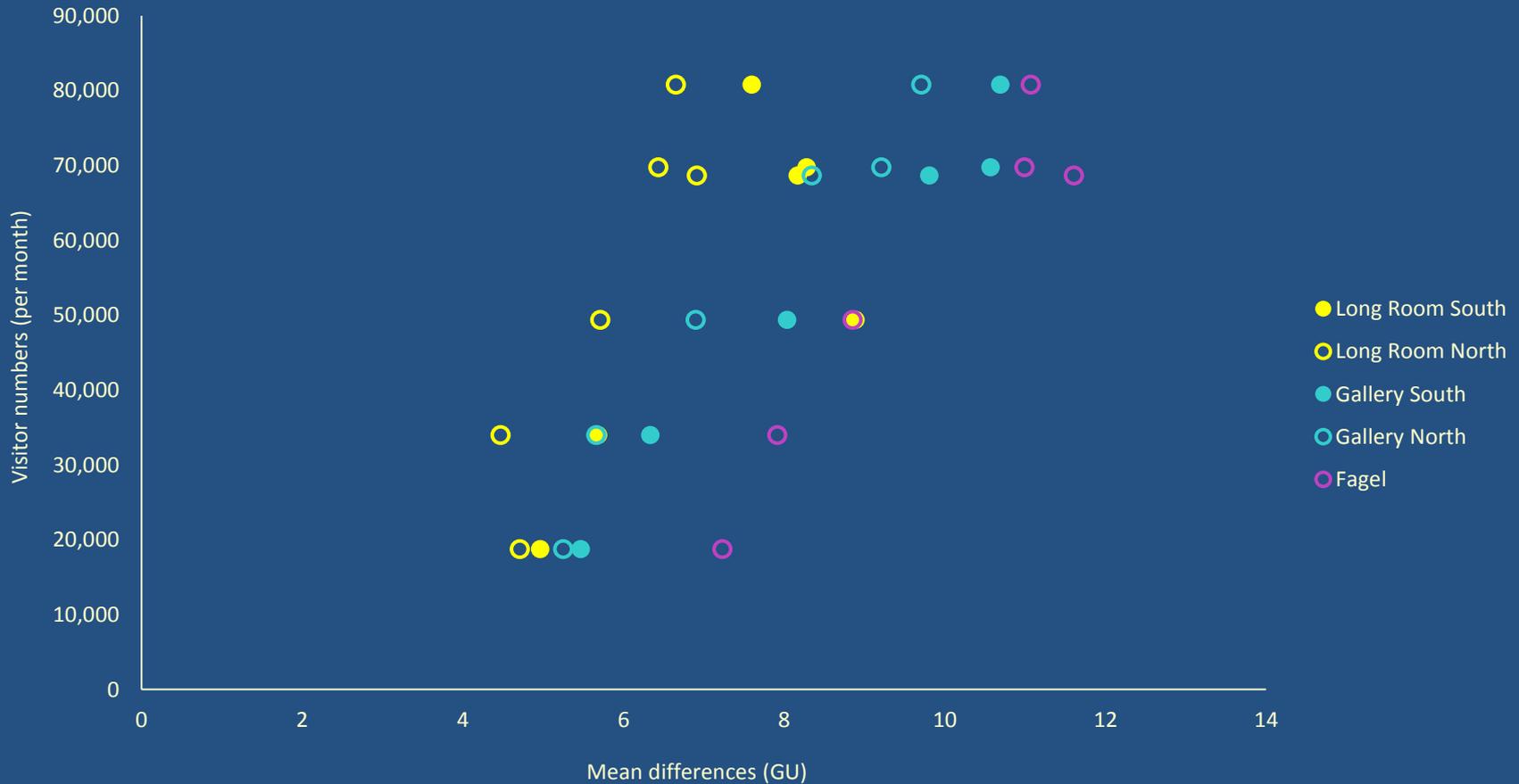
Long Room: differences after 12 months (Oct 2011 – Oct 2012)



Gallery: differences after 12 months (Oct 2011 –Oct 2012)



Visitor numbers & mean differences (June –Dec 2010)



Royal Irish Academy

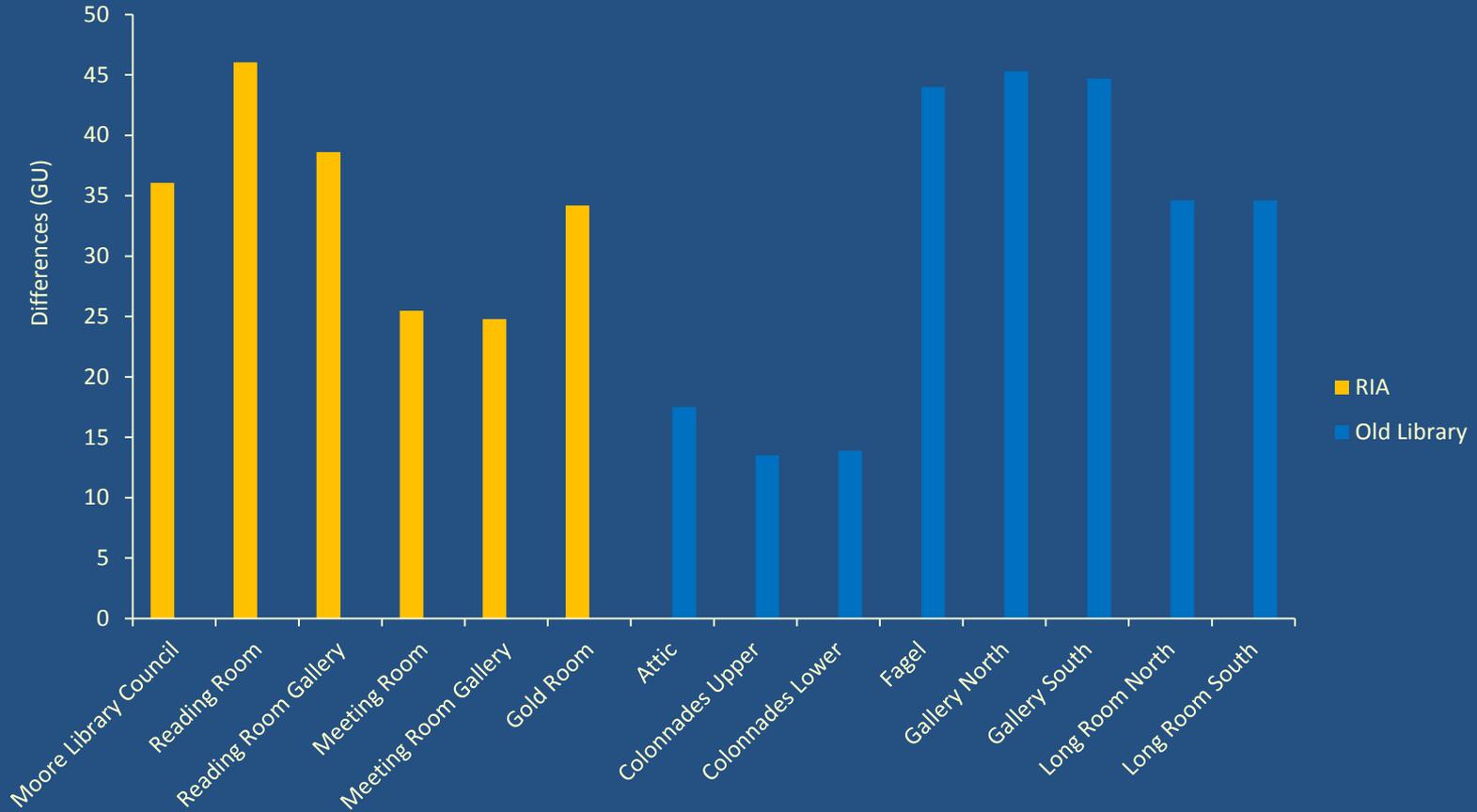


Reading Room
Reading Room Gallery

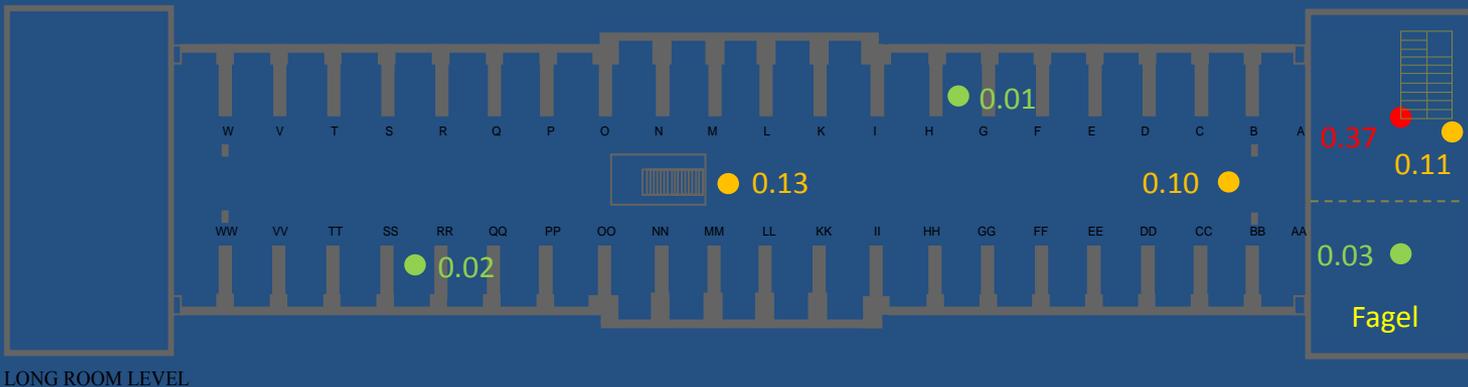
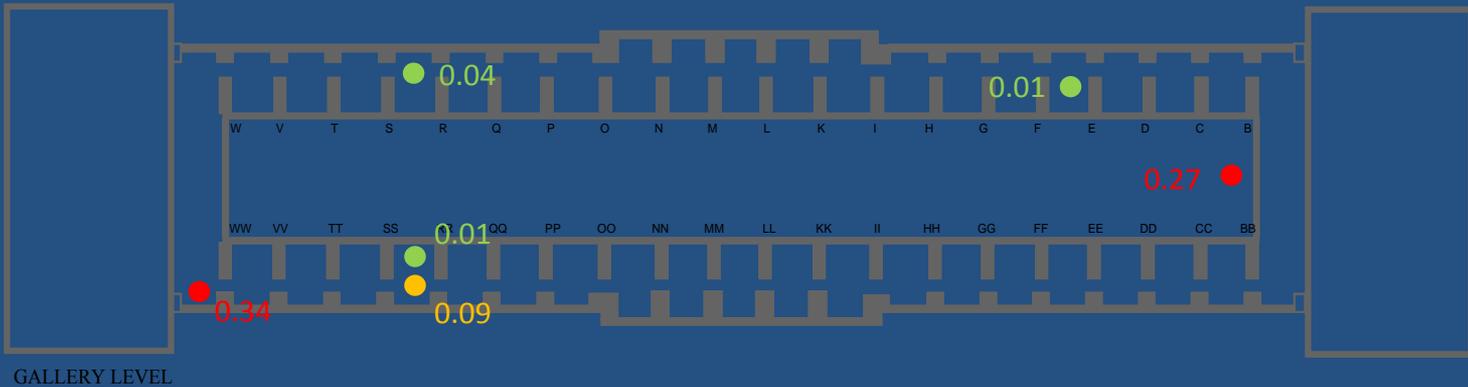
Meeting Room
Meeting Room Gallery



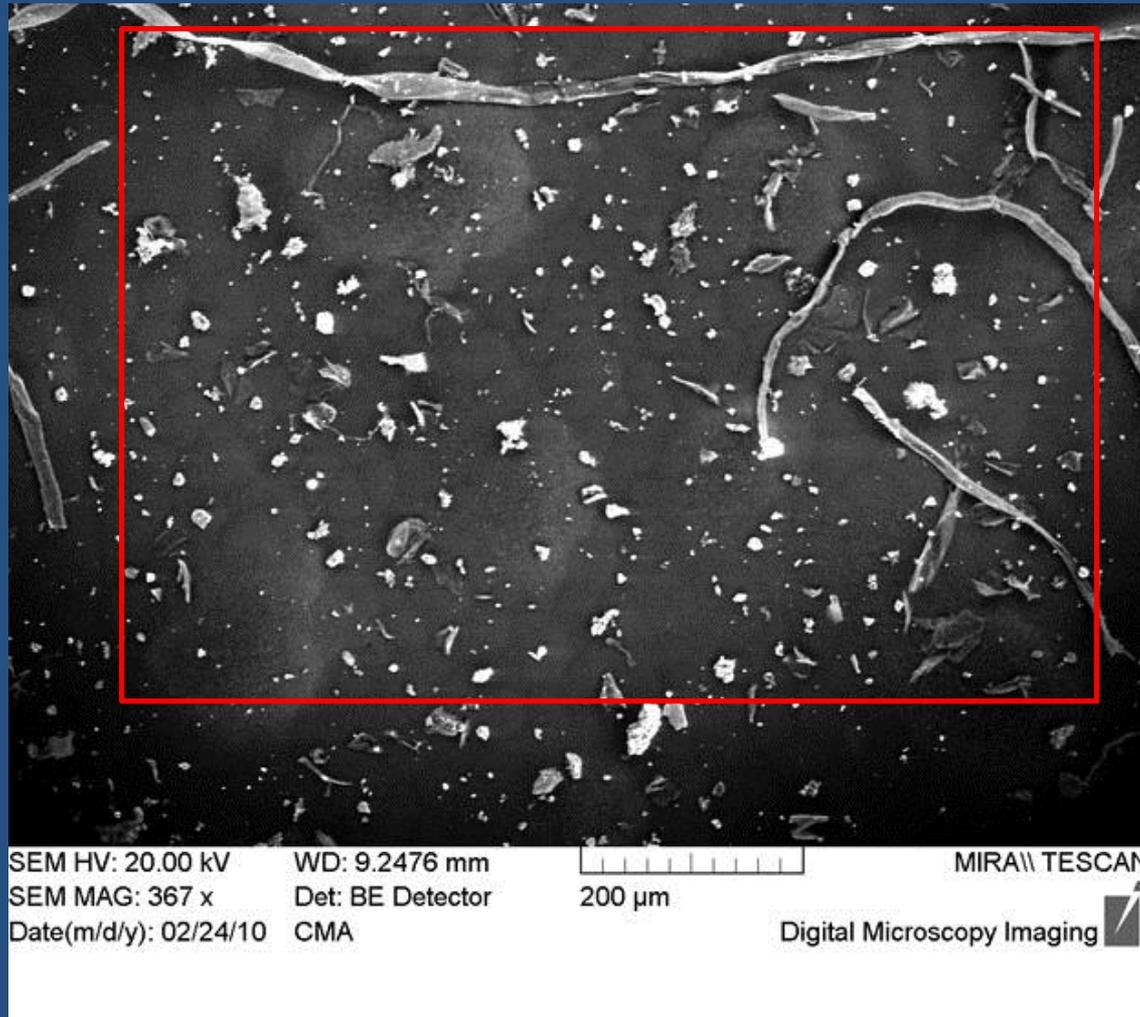
Differences after 12 months (Oct 2011 – Oct 2012)



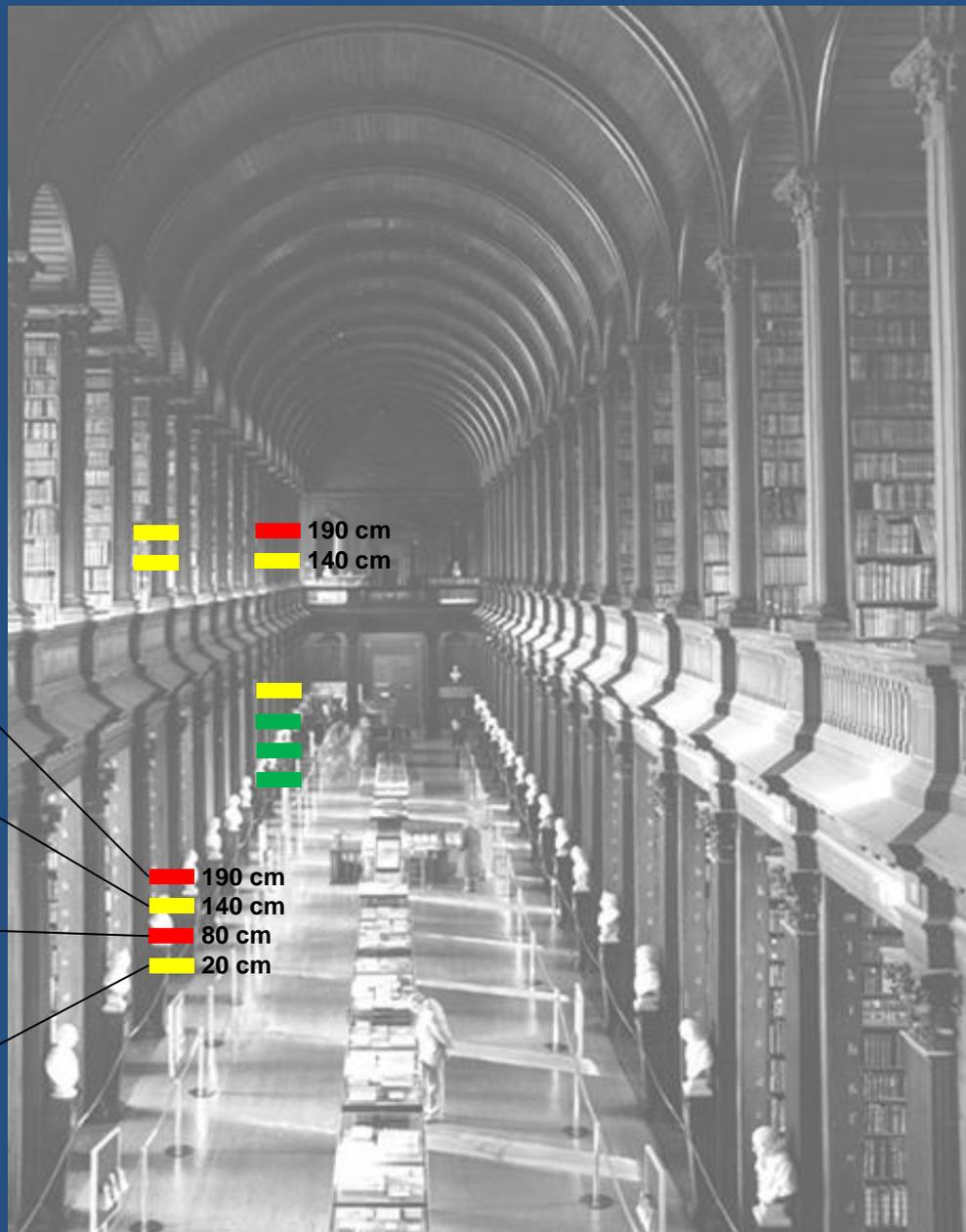
Air velocity (m/s)



Particle analysis with Image J



Dust coverage

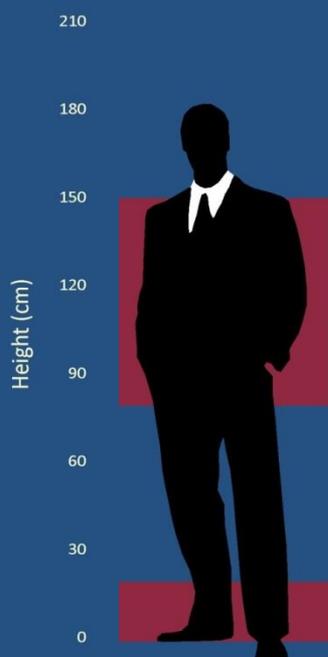


After 7 months (2010)

5-7 %

8-9 %

10-12 %



190 cm
140 cm

190 cm
140 cm
80 cm
20 cm

190 cm
140 cm
80 cm
20 cm



Summary of findings

- **Accumulation rate:**

Soiling in the Old Library is lowest where windows are never opened and activity is limited, the Fagel is an exception

Average dust coverage (after 7 months): Long Room 8.8 %, Gallery 9.7 %

- **Patterns of distribution:**

Trends for soiling dependent on height from floor, position within and along shelf are not conclusive

Soiling in the Gallery is generally greater than in the Long Room

- **Ways in which soiling could be reduced:**

Strong relationship between soiling and visitor numbers

Repair to historic fabric of structure/ conservation of in situ collections



Thank you

- Geology Department, TCD
- Preservation & Conservation Department, TCD
- Library, TCD
- Royal Irish Academy

