

# About Me

From a town near Kuala Lumpur in Malaysia.

MSci at Imperial College London.

- ❖ 4 year undergraduate program.

PhD at LPNHE, Paris.

- ❖ Photon conversion study.
- ❖ Sensitivity study for a search for 2HDM A decaying to  $Zh$ , with  $h$  to diphoton.
- ❖ Search for high mass diphoton resonances.

DESY fellow since May 2017.

Imperial College  
London



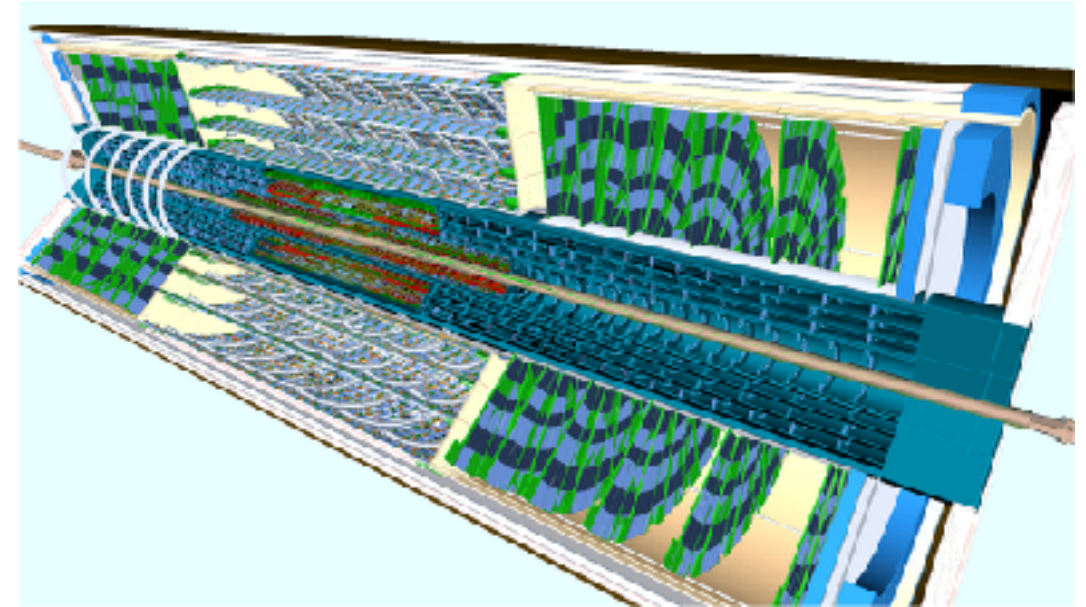
# My Current Work

## ATLAS Inner Tracker (ITk) Strip Detector simulation.

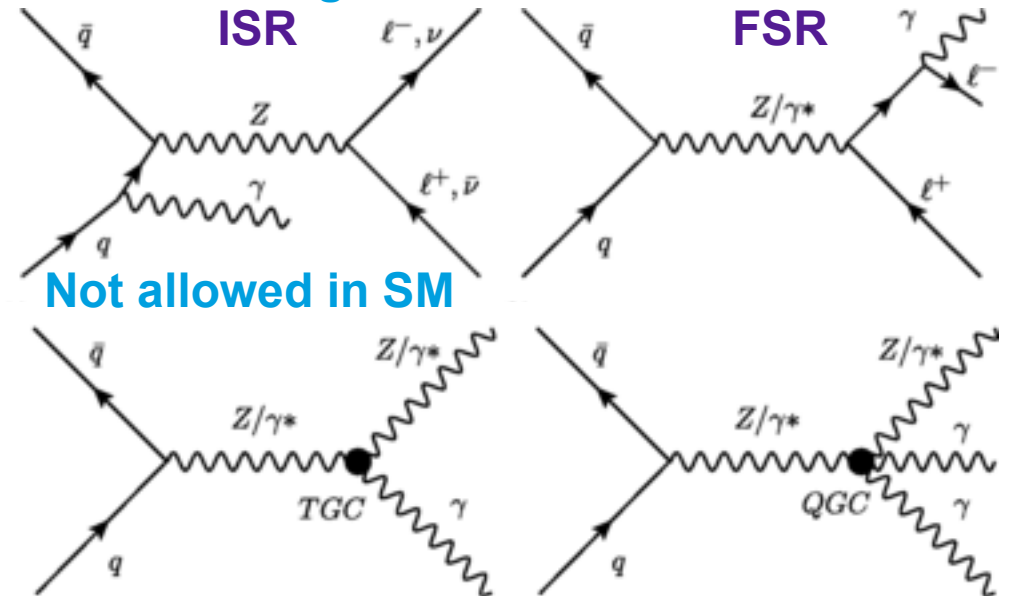
- ❖ new tracker for the operation at the High Luminosity LHC (HL-LHC).
- ❖ Performance study on different layout.
- ❖ Update the detector geometry to the best available knowledge.

## SM $Z\gamma$ cross-section measurement.

- ❖ First measurement at 13 TeV.
- ❖ High precision measurement with  $Z(\rightarrow ll)\gamma$ .
- ❖ Compare measured cross section to NLO and NNLO predictions.
- ❖ Probe anomalous triple gauge coupling  $ZZ\gamma$  and  $Z\gamma\gamma$ .
- ❖ Current challenge:
  - ❖ Investigate why Sherpa and Madgraph have too high cross sections for final state radiation (FSR) events).



## Main SM diagrams



# My Favourite Plot

2D scan of local significance (of the incompatibility of the 2015 data with the background-only hypothesis) as a function of diphoton resonance mass and width.

- ❖ Computed using asymptotic formula.
- ❖ No interpolation here, a lot of CPU time was abused for such a fine scan.

