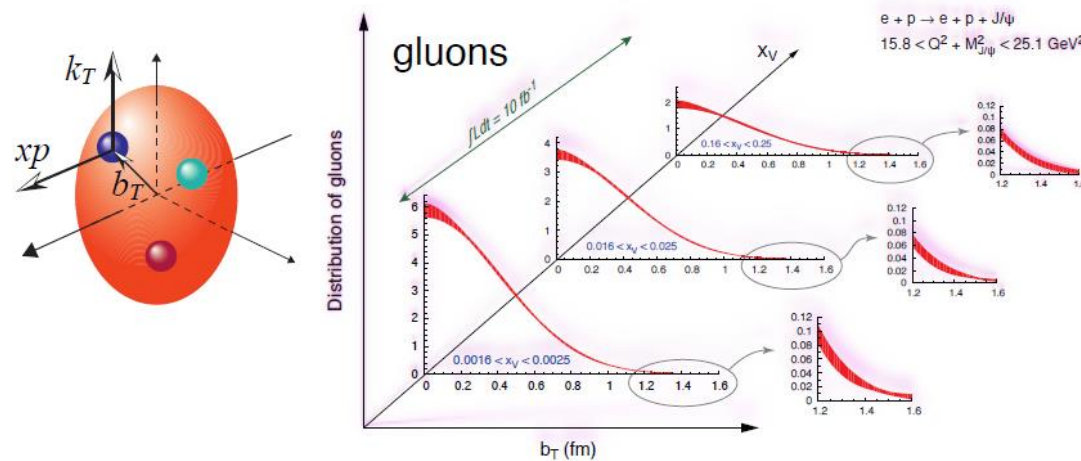
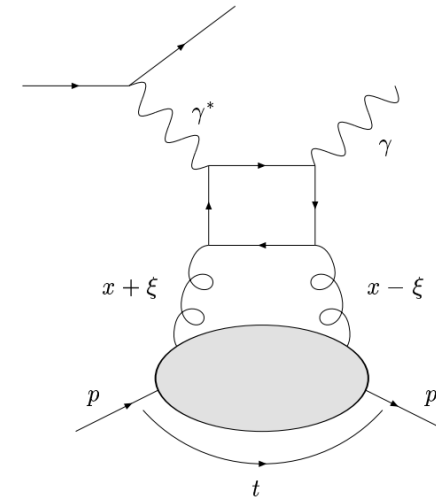


- **Physics interests:** 3D imaging of the nucleon and nuclei through exclusive reactions (eg. DVCS, DVMP)
- **Detector interests:** Electron-Endcap Electromagnetic Calorimeter and **Roman Pots**



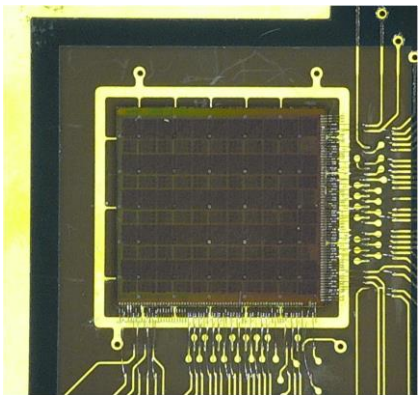
Transverse distribution of gluons through J/Ψ exclusive production



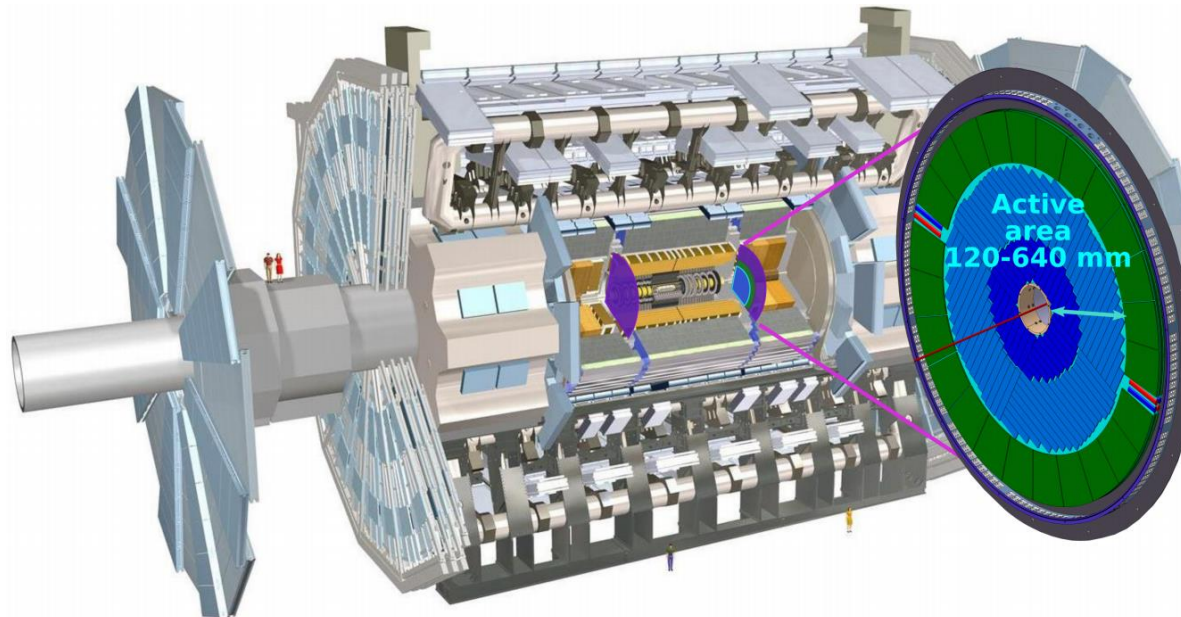
DVCS: $e p \rightarrow e p \gamma$

- Long experience in the Generalized Parton Distributions (GPD) experimental program at Jefferson Lab
- Currently: 6 staff members, 5 PhD students, 2 postdocs

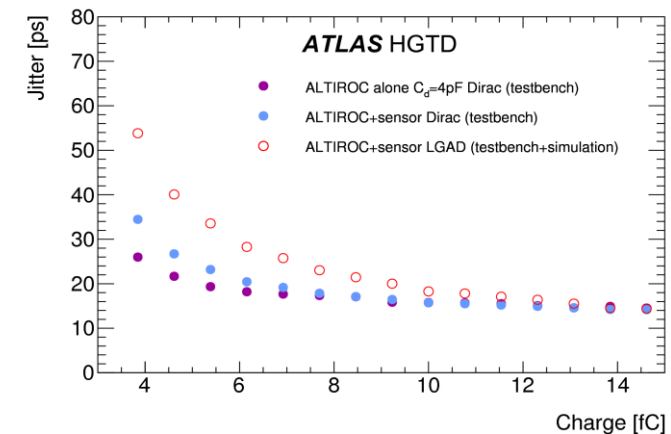
- Past experience in **mechanical integration** and detector construction (EM calorimeters for Jefferson Lab, but also other detector contributions to LHC)
- **Electronics department** has also been involved in large scale detectors (eg. ALICE)
- In **collaboration with OMEGA**, and in synergy with the ATLAS group at IJCLab, we have become interested in the ASIC readout of LGADs for the Roman Pots of EIC.



Microscope view of ALTIROC1 chip

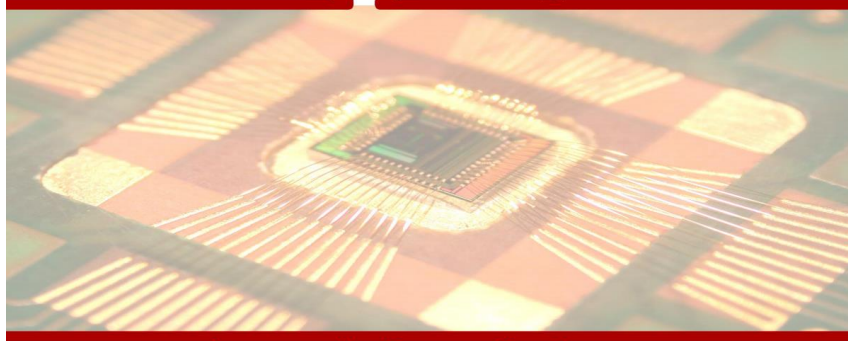


The HGTD will provide time measurements for objects in the forward regions of the ATLAS detector



Jitter vs charge for ALTIROC1

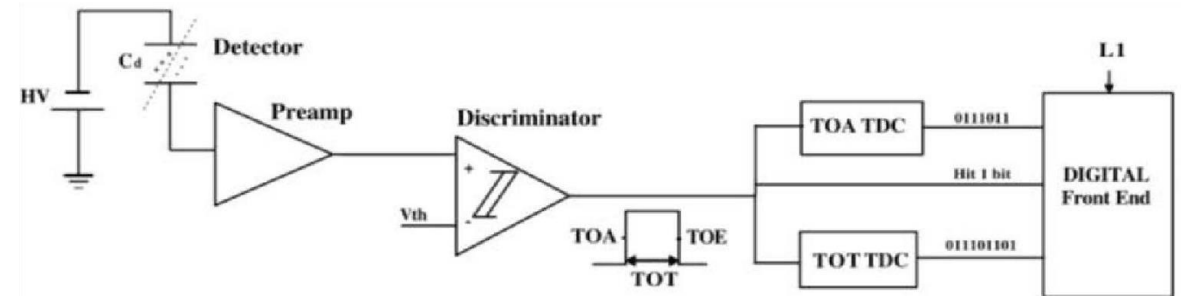
Close collaboration with OMEGA



Organization for Micro-Electronics design and Applications

OMEGA: microelectronics design center located in Ecole Polytechnique Campus. It is composed of a team of a dozen of microelectronics engineers designing sophisticated ASICs for nuclear physics, particle physics and astrophysics detectors.

- Recent funded project to develop a **prototype ASIC to read AC-LGADs** for the Roman Pots of EIC (2021-2022)
- **Starting point ALTICROC1** chip developed for HGTD of ATLAS
- Needs to be adapted to the requirements of EIC (pixel size, occupancy, etc)
- Joined the eRD24 group and working with BNL to better define specs and start some initial tests



Typical electronic chain of a pixel in the ATLAS HGTD