Electron Finder 06-30-2023

- Progress in May / early June (for June Sim Campaign)
  - ❌ PR #666: Provides association containers + truth associations (Wouter Deconinck et. al)
    - Did not make it in on time. S&C group still working through unexpected issues when it is included
  - PR #666: merged into main on June 24
  - Work in parallel with the RECO approach (see tasks below)

- Major Tasks (June/July):
  - Track Projection Factory: provide track projections at relevant detectors (Tyler Kutz)
    - ✓ Needed data structure identified
    - ✓ Prototype factory in progress
  - Track Match Factory: Matching of projecting tracks to clusters (volunteer?)
    - Nicholas Schmidt already has some code (processor) to study track matching
    - Provides a starting point for factory
  - Study of E/p cuts to implement (volunteer potentially identified, discussing next steps)

- Plans for July sim campaign
  - Implement framework skeleton using PR#666 (truth) associations
  - Continue work towards towards fully RECO level (complete track matching / compare to truth level matching)

Electron Finder 06-16-2023

- <u>Goal / Product</u>: Provide identified (DIS) electron info

- Progress in May / early June (for June Sim Campaign)
  - ❌ PR #666: Provides association containers + truth associations (Wouter Deconinck et. al)
    - Did not make it in on time. S&C group still working through unexpected issues when it is included
  - Plan for June: Daniel is working on adding necessary data structures as an "afterburner" for the current simulation campaign
  - Continue in parallel with the RECO approach (see tasks below)

- Major Tasks (June):
  - Electron-pion separation, implementation of E/p cuts using existing association information (volunteer?) (some studies for roughly optimal cuts needed)
  - Track Projection Factory: provide track projections at relevant detectors (Tyler Kutz)
  - Track Match Factory: Matching of projecting tracks to clusters (volunteer?)
  - DIS lepton identification (Andrii Verbytskyi) + implementation
  - Integrated Electron Finder Factory (Daniel Brandenburg)

- These tasks make progress towards two goals for July sim campaign
  - Setup complete framework: utilize existing association + simple electron id + existing DIS lepton finder -> output DIS lepton
  - First steps towards towards fully RECO level (track matching / compare to truth level)