



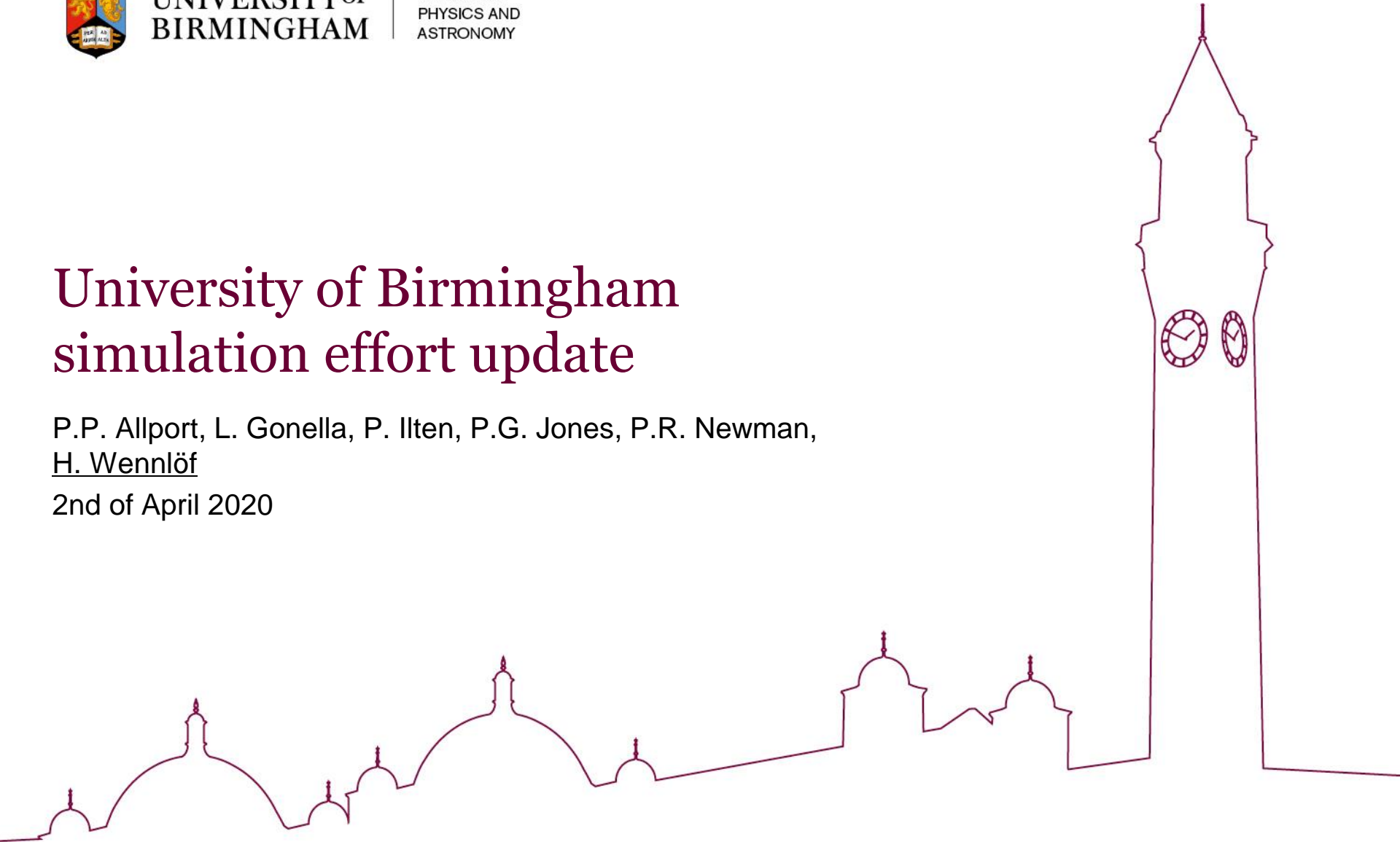
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# University of Birmingham simulation effort update

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# University of Birmingham summary

- Current working status:
  - G4E+eJANA (ESCalate) set up locally.
  - Can change geometry in G4E.
    - SVT implemented analogously to previous EICROOT studies (<http://cern.ch/go/xKk6>).
  - Particle gun constructed, generating same distributions as used in previous EICROOT simulations.
  - Can write analysis code using eJANA plugin system.
  - Have set up Pythia generator. Can generate events, and propagate them through G4E geometry. Hit positions can be extracted.
  - New version with ACTS reconstruction of tracks and vertices just downloaded. Easy switch between GenFit and ACTS possible. Evaluation pending.
  - ESCalate developers very active in helping with setting code up.
- Currently not working:
  - Reconstruction of vertex position (but present in latest version – tests pending).
  - Reconstruction of momentum; functions (tested using GenFit), but gives relative momentum resolution a factor of 10 lower than what is expected from EICROOT results.
    - Will possibly be fixed automatically when moving to reconstruction using ACTS. Tests of latest version pending.
- Simulation needs not being worked on (as far as I know):
  - Gas TPC implementation
    - Possibility of porting over from Fun4All to G4E?
    - Other GEANT4 TPC implementation available for import?

