Postdoc in ATLAS @ AGH U. of Krakow

Accelerated charged particles tracking for the HL-LHC in ATLAS

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Project broad overview

- The ATLAS @ HL-LHC plans to increase data recording rate 10 fold to benefit from the increased luminosity
- With increased lumi, the pileup will increase to about 200 parasitic collisions per event
- Online filtering in such conditions will require charged particle tracking for an entire event
- The ATLAS HLT farm does not have sufficient resources
- ATLAS investigates use of compute accelerators (GPU, FPGA) as well as innovative approaches that can allow “to do the job” on standard CPUs using the ACTS toolkit
  - The project is called **EF Tracking** and is advancing towards the choice of technology

EF Tracking TDR

More details of AGH contribution

You’ll contribute to a very challenging project!

The details on the position

- The successful candidate is expected to contribute to the EF Tracking project in several areas:
  - software integration
  - co-developement of algorithms for accelerators (using industry standards like SYCL or CUDA)
  - help in overseeing and leading several computer-science & physics students from AGH University that already contribute to the project
- Above all, the candidate is expected to be able to deliver tangible contributions to the EF Tracking project

You'll develop technological know-how portfolio and managerial skills

The ATLAS AGH group

- The group is of the middle size with 30 members, among them 5 PhD students
- Areas of technical contributions: HLT, Upgrade trigger - EF tracking, ITk
  - Significant contributions to HLT from the start of the LHC, most recently to HLT upgrade for Run 3,
    We have held/have leading roles in HLT and Trigger
- Physics: Heavy Ions, Forward & Diffractive
  - The HI group is highly successful: lead measurements of light-by-light scattering (published in Nature Physics),
    recent: di-tau, top quark measurements in p+Pb, magnetic monopoles search.
    We hold (and have held) leading roles in HI group

@ AGH University - we are quite strong, productive and well integrated with ATLAS activities

Working conditions

- The gross salary is 140000 PLN/year
- The successful candidate is expected to work at the AGH University in Krakow, Poland, short visits at CERN are expected
- The AGH University is one of the best in Poland, mostly training engineers for various industries, Physics dept. is the leading division
- Krakow is high in rankings of best places to live and work, very safe, many cultural events, about 200 thousands students, many R&D laboratories in IT sector.

AGH University, Kraków, Poland is great place to work and advance your career