Tips for Newcoming Students in ATLAS

Annabelle Chuinard - 05/26/2014
Where to find the info in general?

**Twikis are your best best friends:**

- **The ATLAS Collaboration General Twiki:**
  
  https://twiki.cern.ch/twiki/bin/view/Atlas/WebHome

- **The ATLAS Canada Twiki:**
  
  https://twiki.atlas-canada.ca/bin/view/AtlasCanada/

- **Your Research Institute Twiki:**
  
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- ATLAS Computing and Software
  - ATLAS Detector Portal
  - ATLAS Trigger Portal

- Obtain certificate from GRID Canada
  - Upcoming meetings and workshops
  - Travel to CERN
  - Canadian contacts links

Specific info about:
  - Physics happening in your institute
  - Computing on local clusters
  - Local Meetings

Not always updated! Everybody (you!!!) can contribute!
ATLAS Facilities and Roles

- **Event Filter farm at CERN**
  Assembles data into streams and sends them to Tier-0

- **Tier-0 Center at CERN**
  - Archives data: RAW data (hits, pulse heights) to mass storage at CERN and to Tier-1 centers
  - Produces prompt Event Summary Data (tracks, clusters) and Analysis Object Data (Physics Objects)

- **Tier-1 Centers distributed worldwide (10)**
  Produced new ESD/AOD from RAW data with better calibration and software

- **Tier-2 Centers distributed worldwide (~30)**
  - Does Monte-Carlo simulation, produces ESD/AOD, send them to Tier-1
  - Production of datasets to be shared for Physics Analysis

- **Tier-3 Centers distributed worldwide**
  Jobs for Physics Analysis
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*your local cluster*
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You can also use **LXPLUS**: cluster of PCs running Linux at CERN intended for interactive work. Direct access to AFS. Use `ssh` to connect to an LXPLUS machine.

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**Not for CPU-intense runs!** Jobs consuming lot's of CPU for extended periods of time will be killed automatically. For big jobs, use your local cluster or the Grid.
ROOT

An object oriented framework for large scale data analysis. C++ replacement of the PAW program developed at CERN. Alternative to Athena framework for analysis

Useful links:

- The [ROOT website](#) with description of each class
- The [RootTalk forum](#)
- A [ROOT Tutorial](#) for beginners (en Français)
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(py)AMI

Need an AMI account. Check your account status [here](#).
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**panDA**

**Ganga**

Need Grid certificate: see [here](#) or use your home cluster

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How can find an ATLAS software code?

LXR

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Acronyms

ATLAS people love acronyms (it is maybe a strategy to keep the guys from CMS out of the ATLAS business) and you won’t change it.

To avoid getting lost while meeting ATLAS members or listening to talks, it is sometimes worth to have a list of these acronyms.

Here is a couple links to such dictionaries that you may use:

- From University of Manchester: [here](#)
- From some prof in Australia: [here](#)

The **Particle Data Group** is also a good reference (for MC numbering convention for example...)

LAr… SCT… TRT… CSS… AFS… CDS… LXPLUS… supercalifragilisticexpialidocious…
The hidden side of the iceberg

The Authorship Task

To qualify as an author in ATLAS publications you must:
- have been a member of ATLAS for 1 year
- have spent >80 days or >50% of research time doing technical work (detector running and maintenance, technical software, shifts, managerial tasks but not physics tasks)


Shifts

- Class 1: ATLAS Control Room and Tier-0, ADC at Point-1
- Class 2: Satellite Control Room, Computing, On-call shifts
- Class 3: Expert Tasks: systems, data preparation, computing, software

A typical task in ATLAS is evaluated using an index called Operation Task Planner (OTP) credit
You are not alone

The ATLAS Computing and Software Workshop at CERN

- 4 days extensive covering of the whole ATLAS software
- Lectures and Hands-on sessions
- It’s free provided your institute is paying for the airfares and accommodations... You can access the slides and assignments remotely from their website https://twiki.cern.ch/twiki/bin/view/AtlasComputing/SoftwareTutorial

People in your institute

- your supervisor
- your office mates
- Post-Docs
- e-groups mailing lists
How to go to La Citadelle?
Thank you!