



# Report on EPlanet trip to UNLP, La Plata (Argentina)

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SFT group Meeting  
January 20, 2014



# ATLAS UNLP group



- Maria Teresa DOVA, group leader
- 6 exp. researchers, 1 theoretical researcher
- 2 PhD students
- Activities
  - ATLAS:
    - Trigger
    - Data analysis: Higgs, Supersymmetry searches
  - Pierre Auger observatory (Malargüe, Argentina)





# La Plata





# La Plata: a squared planned city

- Designed by Pedro Benoit, around 1882
- Strict grid of numbered streets, avenues, diagonals





# ROOT Training



- ROOT training inspired on what has been done in Belgium at IRMM in early 2013
  - one week training on ROOT starting from zero
    - assuming no prior knowledge of ROOT
- Program:
  - Start Using ROOT
  - Introduction to C++
  - Working with Histograms
  - ROOT I/O and Trees
  - Interactive Data Analysis with PROOF
  - Fitting in ROOT
  - Fitting Using RooFit
- Lecture slides together with simple exercises
- Length: ~ about 20 hours



# ROOT Training



- Training well advertised at UNLP
- Slides and exercises provided by a TWIKI page
  - <https://twiki.cern.ch/twiki/bin/view/Main/ROOTLaPlataTutorial>
  - A link exists in ROOT Drupal page
    - in Documentation/Tutorials and Courses

The poster features a dark background with a faint, abstract geometric pattern. At the top, the title 'Análisis de datos con ROOT' is displayed in large yellow letters, followed by '1er Tutorial - UNLP - 27 al 30 noviembre'. Below the title, there is a large amount of text in Spanish describing ROOT as a software for data analysis. The text highlights its versatility and use in scientific studies. On the right side, there is a section titled 'Expositores' listing 'Gerardo Ganis, CERN | Lorenzo Moneta, CERN'. Below this, a list of topics includes 'Introduction to ROOT', 'Start Using ROOT', 'Introduction to C++', 'Working with histograms', 'Fitting in ROOT', 'Introduction to ROOT I/O and Tree', 'Introduction to RooFit and RooStat', 'Introduction to PROOF', and 'Data analysis with PROOF'. To the right of the topics, a vertical column lists practical details: 'Horario: 9:00 a 13:00 hs', 'Lugar: Sala de PC de Postgrado de la Facultad de Informática - 50 y 120', 'Inscripción (gratuita) por mail a: anduaga@fisica.unlp.edu.ar', and 'Más información en: https://twiki.cern.ch/twiki/bin/view/Main/RootProofUNLPTutorial2013'. A yellow box at the bottom states 'Abierto a estudiantes de grado y doctorado. El tutorial se dictará en inglés.' Logos for IFILP, CONICET, and the Faculty of Informatics are at the bottom.

# ROOT Training



- Attendance
  - about 10 graduate and doctoral physics students from UNLP (not only HEP)
    - basically no real prior knowledge of ROOT





# HW for the course

- Room at IT department with 20 dual core PCs running Windows
- Running SLC6 image inside VirtualBox
- All the required software from CernVM-FS
  - Using local squid server setup beforehand
- Worked basically fine, except the last day, when the network all of a sudden went down. It was a Saturday
- ...



# Feedback from the course

- Students could follow well the course
  - level was adequate
  - we added also an introduction to C++ after consulting with them
  - useful to break with exercises
- Some part (like ROOT I/O, Trees) were maybe more difficult to follow
  - we could not complete there all the foreseen exercises
    - e.g. creating and analyzing Tree's made with user objects
    - using PROOF to generate events with Pythia
- Always useful to do a training
  - see how people use and think of ROOT



# Dedicated Tutorials on Fitting



- Helped post-doc of UNLP with RooFit/RooStats
  - provided a dedicated RooStats tutorial
  - working in Higgs and SUSY searches in ATLAS
- Had also various discussions with other ULP members
  - Helped a physicist using ROOT for some dedicated fitting problems



# Enabling PROOF on the small cluster



- Create a simplified version of their analysis running with PROOF
  - Full version later on
- Run PROOF-Lite in the submitted job
- Next: Run PROOF w/ PoD



# Conclusions

- Very interesting visit
  - ROOT training was a success
    - goals of the course has been achieved
  - received useful feedback from users of ROOT
  - Having our presence useful for establishing contacts with users
- EPlanet support is crucial for institutes in Latin America
- Always nice to spend some time in a warm climate during winter

