Venezuela(ns) in ATLAS

report on activities
with CERN-EPLANET support (and others)

Luis Núñez, Universidad de los Andes, Mérida
José Ocariz, IN2P3 et Université Paris Diderot, París
Venezuela and experimental HEP : a 1-slide summary

Before **HELEN** :
- essentially inexistent at the institutional level
- a (very) few individual stories here and there
- national HEP community, very strongly theory-oriented

Dramatic evolution since :
- an ever-increasing, community of MSc -> PhD students -> postdocs
  - most from ULA (Mérida), also UCV+USB+IVIC (Caracas)
- training and research mostly on French ATLAS groups
  - bi-national funding programs for travels and PhD grants
- 2009-2010 : first contacts with ATLAS management
  - Support from University Presidents, Venezuelan UN Embassy in Geneva
  - positive feedback from P. Jenni and F. Gianotti :
    - reach agreement at national-agency level
  - Appointment(s) with Minister of Science requested ... ... ... ... ...

2012 : the Higgs discovery drives a new momentum !
- contributions from Venezuelan students yield strong impact in the media
- new, promising contacts with Ministry of Science
- a draft Venezuela-CERN collaboration agreement is circulating (J. Salicio)
Venezuela within ATLAS: sort of a paradox

“Y être sans en être” … or … “estamos pero no somos”

Good scientific visibility within the collaboration
- 8 ATLAS PhD theses completed!
  - including contributions to high-profile ATLAS results
  - 5 are postdocs within ATLAS, 3 most recent ones are on-track
- 2 new theses just starting

Venezuela as a country is invisible in ATLAS and at CERN …
- among the few LA countries still without CERN cooperation agreement
- CERN-EPLANET funds provide opportunities for young students
  - Roger Naranjo
    - 6-month stay at CERN in 2012-2013, worked with B. Lenzi
    - now PhD student at DESY
  - Julia Peña, very likely to apply for CERN-EPLANET support in 2014

How will Venezuela’s HEP landscape evolve (positively)?
- clearly a good potential in the long run!
- shorter- and medium- term prospects : quite hard to assess …
Venezuela within ATLAS: sort of a paradox

Distribution of All CERN Users by Nationality on 2 September 2013
Venezuela within ATLAS: sort of a paradox

Distribution of All CERN Users by Location of Institute on 2 September 2013

MEMBER STATES
Austria 104
Belgium 148
Bulgaria 51
Czech Republic 200
Denmark 64
Finland 91
France 881
Germany 1224
Greece 105
Hungary 58
Italy 1376
Netherlands 176
Norway 83
Poland 197
Portugal 116
Slovakia 56
Spain 318
Sweden 90
Switzerland 362
United Kingdom 766

6466

CANDIDATE FOR ACCESSION
Romania 82

ASSOCIATE MEMBER IN THE PRE-STAGE TO MEMBERSHIP
Israel 57
Serbia 30

OTHERS
Argentina 17
Armenia 17
Australia 39
Azerbaijan 2
Belarus 23
Brazil 110
Canada 154
Chile 7
China 130
China (Taipei) 70
Colombia 11
Croatia 25
Cuba 3
Cyprus 10
Egypt 18
Estonia 18
Georgia 10
Iceland 4
Ireland 7
Iran 22
Ireland 7
Korea 103
Lithuania 16
Mexico 40
Montenegro 1
Morocco 9
New Zealand 6
Pakistan 21
Peru 2
Saudi Arabia 3
Slovenia 25
South Africa 31
Thailand 6
T.F.Y.R.O.M. 1
Ukraine 26

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Venezuela(ns) in ATLAS: the true faces
Venezuela(ns) in ATLAS: the true faces
Activities of Venezuela(ns) in ATLAS: some snapshots

- Henso Abreu
  - Former HELEN grant-holder
  - PhD at LAL, Orsay 2008-2011 (supervisor Louis Fayard)
    - measurement of prompt-photon differential cross-section
    - several contributions to egamma (photonID…)
  - now post-doc at IRFU, Saclay
    - SM: diboson Zg production
    - Higgs: H->Zg search
    - Exotics: convenes the search of high-mass Wg, Zg resonances
Activities of Venezuela(ns) in ATLAS: some snapshots

- **Reina Camacho**
  - Former HELEN grant-holder
  - PhD at LPC, Clermont-Ferrand 2009-2012 (supervisor Dominique Pallin)
    - Top: search for ttbar resonances
    - several contributions to jets (energy calibration)
  - now post-doc at Université de Genève
    - Higgs: bbbar in associated production

- **Daniela Paredes**
  - PhD at LPC, Clermont-Ferrand 2010-2013 (supervisor David Calvet)
    - Top/Exotics: search for 4-top production
    - background models for several top/BSM analyses

- **Silvestre Marino**
  - Starting his PhD at Clermont
Activities of Venezuela(ns) in ATLAS: some snapshots

Heberth Torres

- Former HELEN grant-holder
- PhD at LPNHE, Paris 2009-2013 (supervisors B. Laforge, G. Calderini)
  - Higgs: various contributions to $H \rightarrow gg$
    - co-editor (with K. Tackmann) of the Summer 2012 note
  - contributions to SMDP and egamma
  - now post-doc at SFU
  - Higgs: WW

Camila Rangel-Smith

- PhD at LPNHE 2010-2013 (supervisor J. Ocariz)
  - Higgs: signal models for $H \rightarrow gg$, $H \rightarrow Zg$
  - egamma: photon calibration with Radiative Z
Activities of Venezuela(ns) in ATLAS: some snapshots

Roger Naranjo
- CERN-EPLANET grant-holder
- MSc at ULA, Venezuela 2013 (on-site advisor Bruno Lenzi)
  - egamma: optimization of MVA-based photonID at low ET
  - Higgs: impact for the H->Zg search
- now PhD student at DESY (supervisor Kerstin Tackmann)

Julia Peña: next in 2014?
Activities of Venezuela(ns) in ATLAS: some snapshots

Arturo Sánchez
- Former HELEN grant-holder
- PhD at INFN, Napoli 2009-2012
  - >300 hours online for RPC baby-sitting!
  - contributions to H→ZZ
- now post-doc at INFN, Napoli
  - developments of common analysis tools for HSG2

The H→ZZ(*)→llqq
Analyses with 2012 data at √s = 8 TeV
Activities of Venezuela(ns) in ATLAS: some snapshots

- **Joany Manjarrés**
  - Former HELEN grant-holder
  - PhD at IRFU, Saclay 2010-2013 (supervisors S. Hassani, Ph. Schune)
    - R&D on micromegas for the muon spectrometer
    - SM: measurement of WZ production
  - Now postdoc at York Univ, Canada

- **Homero Martínez**
  - Former HELEN grant-holder
  - PhD at IRFU 2010-2013 (supervisor N. Besson)
    - SM: study of pT cross-section of Z production
About the future...

- Videoconference with Dr. Jorge Arreaza, Minister of Sciences (July 2012)

- Web page to visit:

  https://twiki.cern.ch/twiki/bin/view/Sandbox/VenezuelaAtCERN

- contains lots of infos and links about Venezuela-ATLAS