

# LHCphenOnet

## Buenos Aires

Daniel de Florian  
Dpto. de Física - FCEyN- UBA

LHCphenOnet mid-term meeting





Universidad de Buenos Aires  
Facultad de Ciencias Exactas y Naturales  
Departamento de Física

> 350.000 students  
> 5.000 students  
~ 1000 students

~100 researchers in many different fields

Among them

✳ Experimental HEP group in ATLAS

✳ Phenomenology HEP group

## ★ Members of the Group



Daniel de Florian



Rodolfo Sassot



Ezequiel Alvarez

ESR from  
June 2011

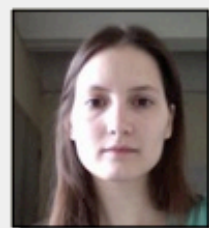


Roger Hernandez Pinto



Francesco Coradeschi

ER from  
April 2013



Pia Zurita



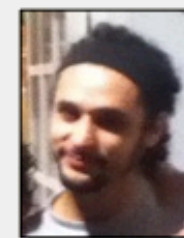
Leandro Cieri



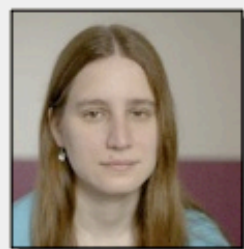
German Sborlini



Estefania Coluccio



Juan Ignacio  
Sanchez Vietto



Romina Llubaroff



Nerina Fidanza



Yamila Rotstein



Javier Mazzitelli



Manuel Epele

## Links with HEP groups in La Plata and Bariloche

Ongoing Collaborations with

- Valencia
- Firenze
- Zürich
- Debrecen
- Liverpool
- BNL
- Milano
- Tübingen
- Chicago

- Students strongly involved in collaborations
- About 70% of publications in collaboration with LHCphenonet researchers (up to 3 nodes)

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- > 30% physics citations of Argentina in 2011 come from publications of HEP phenomenology group



# Research Topics

- Nucleon Structure (fragmentation functions) Roger Hernandez WP3
  - Spin dependent Processes WP3
  - Beyond the Standard Model WP2
  - Perturbative QCD : NNLO and resummation WP1
  - Higgs Physics WP2 and WP3
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- Two photons at NNLO: main background for Higgs (Leandro Cieri)
  - Higgs cross section (gluon-fusion): used by LHC for Higgs search/discovery  
Buenos Aires- Zürich

Coordinator of LHC Higgs cross section working group

Work within the network **essential** for Higgs discovery

# Training activities

- 1 Student in SUSY 2011 Summer School
  - 3 students in LHCphenoNet Winter School 2012 (Ascona)
  - 4 Students in Cteq 2012 (Peru)
  - 12 Students in PASI 2012 (Buenos Aires)
  - 1 Student in LHCphenonet Annual meeting 2012
  - 5 Visits to Zürich
  - 1 Visit to Firenze
  - 1 going to Valencia
- 
- Phenomenology Workshop (Buenos Aires) : HEP group (July 2011)
  - PASI 2012 **Exploring the Terascale and Beyond** : 2 weeks in March 2012

110 participants

Our students involved in the organization, including

- Chair sessions
- Lead and summarize discussion sessions
- Organize workshop

- Journal club on wednesday morning

review papers of the last week  
and one is presented by a student

improve presentation skills  
Summarize/extract information

- (longer term) Visitor Program

Recent Lectures by M.Carena, C.Wagner, J.M. Maldacena

Students receive training for both academic and non-academic work

### Former members:

- José Zurita (postdoc at Zürich University)
- Federico Wagner (oil company YPF, Argentina)
- Gabriela Navarro (Professor at Universidad Antonio Nariño, Colombia)
- Alejandro Daleo (private company, Zürich)



# (Local) Outreach

- General Public presentations

>500 people in July at the University



- Interviews in TV, radio and newspapers (enhanced by Higgs discovery)
- Script for a TV series (physics and sport)

# Proposal for GGI workshop

## Prospects and precision at the Large Hadron Collider at 14 TeV

– Proposal for a GGI program in 2014 –

### Organizers

The proposed project will be jointly organized by  
D. de Florian (Buenos Aires, Argentina),  
S. Moch (DESY, Zeuthen, Germany),  
G. Montagna (Pavia U. & INFN Pavia, Italy)  
F. Piccinini (INFN Pavia, Italy)

- Fellows/students/postdocs meeting in Buenos Aires 2013 (April/May)