

# The Theory Unit at CERN

# Department of Physics

Head, Deputies, Planning Officer...

TH

EP

drawn off scale  
TH size ~ 5% EP



Groups



<b>Head of Department (DH)</b>	<a href="#"><u>Philippe Bloch</u></a>	
<b>DH Deputies</b>	<a href="#"><u>Ignatios Antoniadis (TH)</u></a>	
	<a href="#"><u>Livio Mapelli (EP)</u></a>	
<b>Department Planning Officer (DPO)</b>	<a href="#"><u>Jose Salicio-Diez</u></a>	

- DH and DDH
  - *Livio Mapelli – Roger Forty (EP) – Ignatios Antoniadis (TH)*
- Department Planning Officer (DPO)
  - *Catherine Decosse*
- Department Personnel Officer (HRO)
  - *Cécile Granier*

*In HR Dept.*

- Human Resources Advisor (HRO)
  - *Lore Taillieu*

# History

- CERN and TH division started in Copenhagen under the guidance of Niels Bohr
- Its main role is to be a center of excellence for theoretical high energy physics in all its aspects

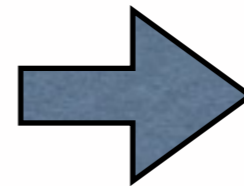


Research

Support to experiments

Education & Training

A facility for the community



TH mandate

# Mandate

- Top quality theory group with excellence and creativity in research in ALL its vital areas
- Provide support to the experimental program of CERN and profit from its stimulating environment
- Reference center for the international theoretical physics community : a high quality place for getting theorists together, exchange ideas and collaborate.
- Contribute to training and outreach onsite and elsewhere : academic training, high school teachers, summer students, CERN schools, ...

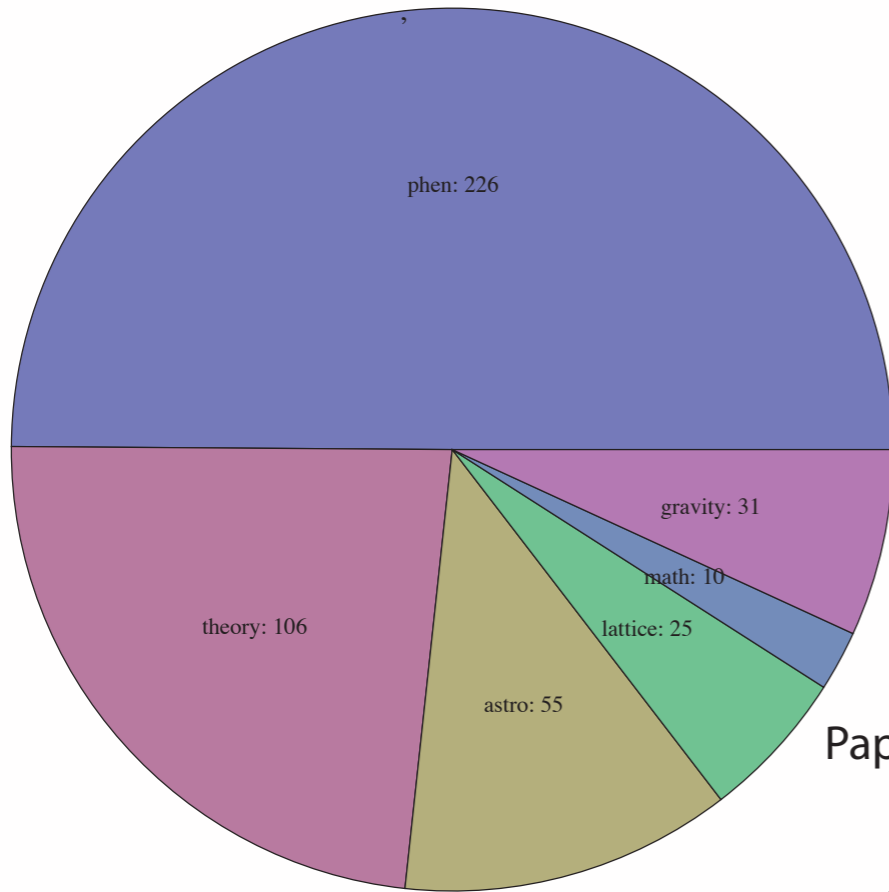
# Fields of activity

- Standard Model, Collider phenomenology
- Heavy ions
- Beyond the SM, including neutrinos and non-accelerator experiments
- Astroparticles and cosmology
- QFT and string theory
- Lattice field theory

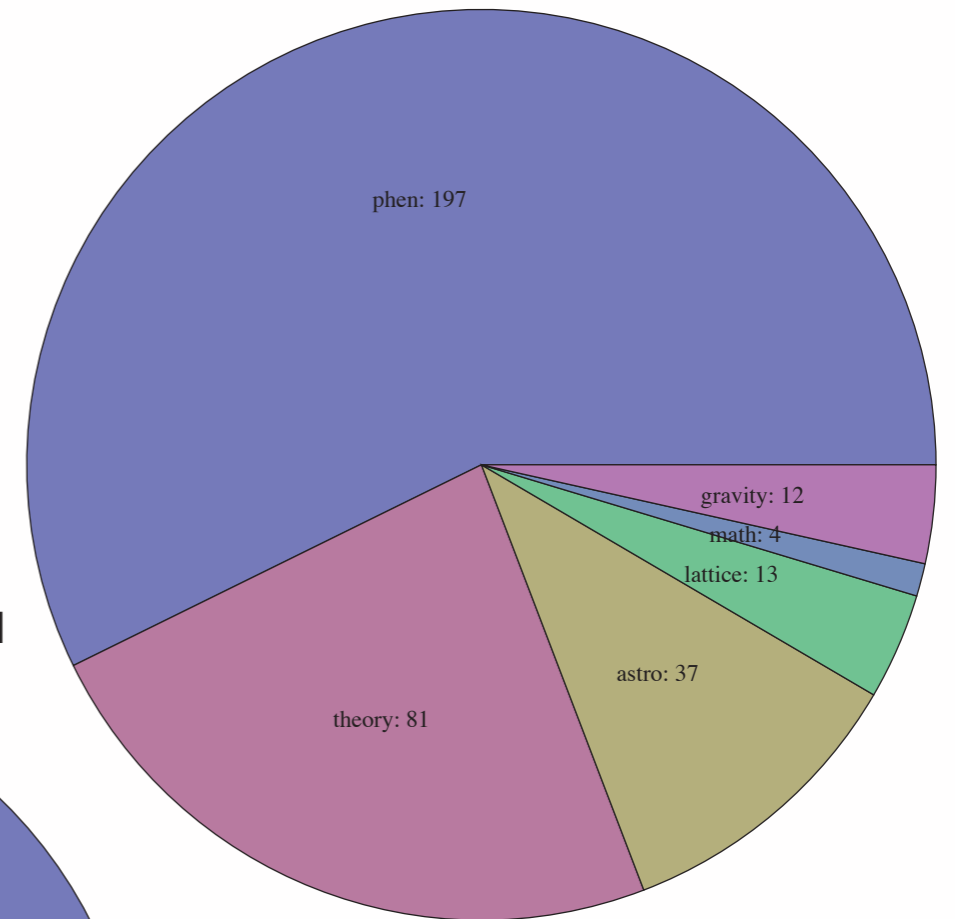
# Scientific output

One paper/day

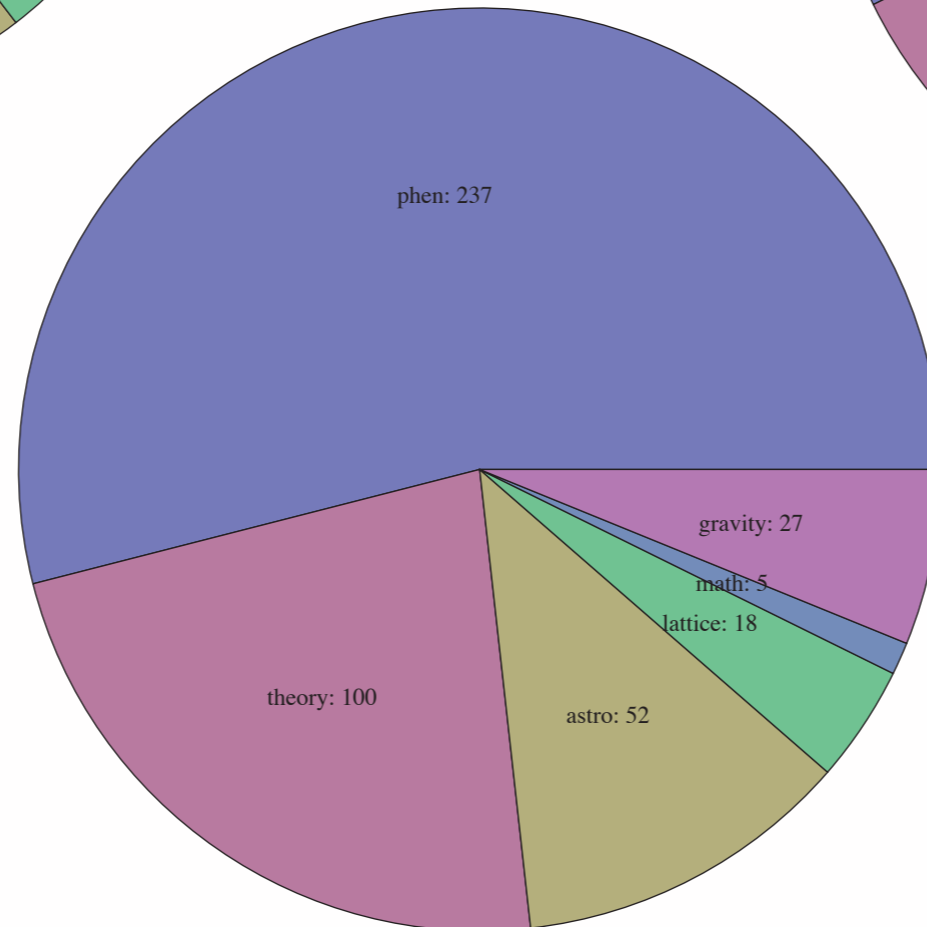
### Papers versus fields, CERN-TH 2007



### Papers versus fields, CERN-TH 2009



### Papers versus fields, CERN-TH 2011





# Regular activities

- Seminars 14h :
  - wednesday mandatory assistance
  - tuesday string/QFT
  - thursday BSM forum
  - friday particle & astroparticle
- Journal clubs :
  - monday string/QFT
  - wednesday cosmo coffee
  - thursday cross collider
- TH institutes
- LPCC activities (LHC Physics Center at CERN)
- TH retreat
- TH pique-nique, TH Xmas party (2013:Wed 18 Dec)

# Current staff

## Indefinite (8)

Luis Alvarez-Gaumé  
Ignatios Antoniadis  
Gian Giudice  
Martin Luescher  
Wolfgang Lerche  
Michelangelo Mangano  
Gavin Salam  
Urs Wiedemann

## Fixed-term (13)

Roberto Contino  
James Drummond  
Stefano Frixione  
Niel Lambert  
Julien Lesgourgues  
Agostino Patella  
Gilad Perez  
Boris Pioline  
Slava Rychkov  
Peter Skands  
Andreas Weiler  
  
Sergei Sibiryakov  
Giulia Zanderighi

## Admin

Michelle Connor  
Nanie Perrin  
Jeanne Rostand

## System Manager

Elena Gianolio

# EU contracts (FP7)

5 ERC advanced grants

(I.A., S. Ferrara, J. Ellis, M. Mangano, S. Dimopoulos)

one ERC junior grant (ended 2013) :

(G. Servant)

2 ITN networks :

- UNILHC (ended 2013) I.A. coordinator from EP, C. Grojean in charge
- MCnet P. Skands

2 other networks :

- Citizen Cyberlab P. Skands
- Cost B. Pioline

# Fellows, Associates and Visitors

- Every year we select ~13 MS fellows + 2 NMS.  
In addition a few agreements e.g. Korea, IKY-Greece + several European grants.
- 10-15 Paid Associates yearly
- ~ 500 paid short-term visitors (a few days to 2-3 months) + 300 unpaid
- TH institutes (about  $> 1/4$  of our visitors budget).  
A way to share our resources with the outside world
- ~ 25 doctorate students paid by external sources (national funds + european grants)

# Fellows

- complete academic freedom
- traveling budget 6 kCHF over 2 years
- register your absences in EDH (official travel or holidays)  
Your office can be assigned to a visitor during your absence
- strict deadline 6 months for travel reimbursement
- ask a TH preprint number to the secretariat
- put your picture in the roster (TH web page)
- be involved in seminars / journal clubs organization
- shake up the staff for discussions / collaborations  
We may be busy but have always time for you
- Let us know your suggestions and criticism

Your stay at CERN is likely to be important for your future career, so you must benefit as much as possible

**Make great discoveries !!**

**Enjoy the TH retreat**

Many thanks Michelangelo for the organization

