

Terascale meeting - Fall 2024

IP2I, Lyon



Welcome!

A very warm thanks to the LOC - for all the organising & local funding

Nicolas Chanon, Suzanne Gascon, Nazila Mahmoudi and Florian Nortier !

Some important points

Meals 😊 :

- Coffee breaks at the [IP2I Library](#) (4th floor)
- Lunches (free buffet for those registered) at the [IP2I Library](#) (4th floor)
- Workshop dinner @ "Café des Fédérations", Tuesday at 20h

Scientific agenda:

- **SMC meeting:** tomorrow after the sessions (around 17h45); Zoom available!
- **Shorter dedicated sessions** due to the **EPPSU 2025**
(thanks for the understanding, especially to the convenors!)
- **Today** ⇒ **preparation of EPPSU (GT1)** - presentations & lots of discussion!
Contribute actively! Either here, or via Zoom
(Fabrice Couderc, MH Genest, AM Teixeira)

Welcome Laurent Vacavant (IN2P3)

Very grateful to the speakers - F. Balli, D. Zerwas, M. Mühlleitner,

S. Crépe-Renaudin, S. Calvet and L. D'Eramo

EPPSU 2025 - GT1, part II

After first meeting (October 4th):

which are the key-points to discuss and emphasise in the GT1 contribution?

- 1) **Physics problems** that remain "beacons" for future machines - **Physics cases**
Higgs sector / new resonances / ...
Which can **only be addressed** with a given experimental setup (energy/precision/...)
Best approach? Challenges (precision, computational tools, ...)
- 2) **Prospects for machines** (EU, JP, CH, US, ...)
Comparative physics programme ; R&D status
- 3) Increasing the **sustainability** - ideas to **reduce environmental impact** (dedicated group!)
- 4) Realistic **options**: if not ... then... (plan A-Z)
- 5) Other **non-collider experiments** that should be **prioritised**: what can they **uniquely probe**?
- 6) **Updates to the HL-LHC** projections given the progress made since 2020
either in **terms of reach** due to improved techniques / reduced systematics
or in **terms of focus** (EFT vs models gathering more interest) ...
- 7) ??? Please contribute !! (all of you - especially younger generations!)

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- 1) **Physics problems** that remain "beacons" for future machines - **Physics cases**
Higgs sector / new resonances / ...
Which can **only be addressed** with a given machine (or combination/...)
Best approach? Challenges?
- 2) Prospects
Compa
- 3) Increasing
... (dedicated group!)
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- 5) Other **non-c** ... what should be **prioritised**: what can they **uniquely probe**?
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Today's goal:

prepare draft of major key points that
we, as a community,

would like to see featured in the GT1 contribution

**Do voice out your physics points,
arguments and concerns!**

**A tribute to a dear Terascale friend:
Ulrich Ellwanger**



Ulrich and the SUSY-Terascale

- Constant, contributing presence... going forever 😊

Since the very first proposal of the **GdR SUSY** (1997!)...
and the early meetings - remember Puy de Dôme and
Laschamps?

LPT Orsay (UMR8627)

Université Paris Sud (Paris XI)

Bât. 210

91405 ORSAY CEDEX

Responsable : Ulrich Ellwanger

Karim Benakli

Christos Charmousis

Jean-François Dufaux

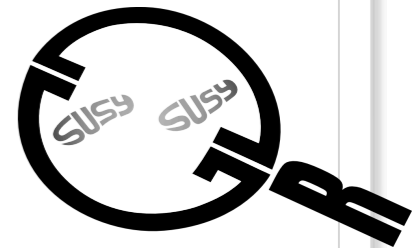
Guillaume Michel

Jihad Mourad

Vakif Onemli

Renaud Parentani

Emmanuel Nezri



Puy de Dome 2004



Laschamps 2007



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... Heidelberg 2009, Saclay 2010, Clermont 2012, Heidelberg 2014,
Saclay 2015, Grenoble 2015, Nantes 2016, Paris 2016, Marseille 2017,
Strasbourg 2018, Annecy 2019, Clermont 2021, Bonn 2022, Marseille 2023

Possibly one of **our most frequent contributors** - with review talks,
dedicated **technical discussions**,
infinite questions, and an urge to pursue **physics excellence!**

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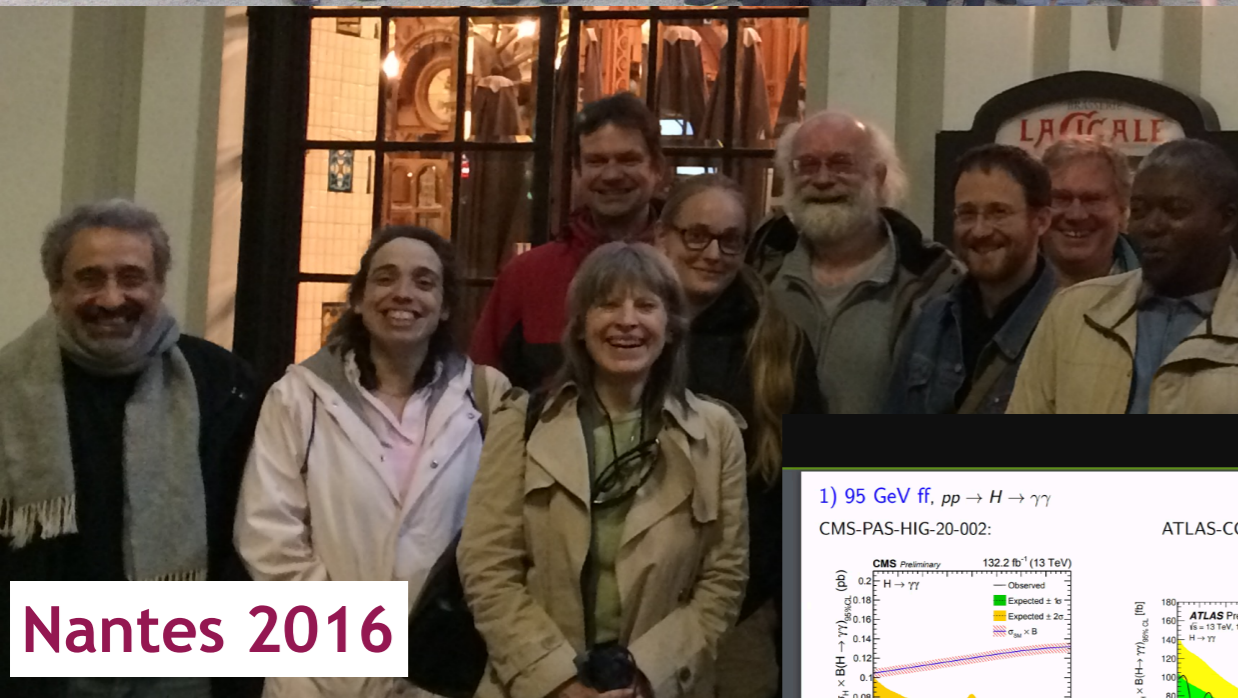
Clermont 2012



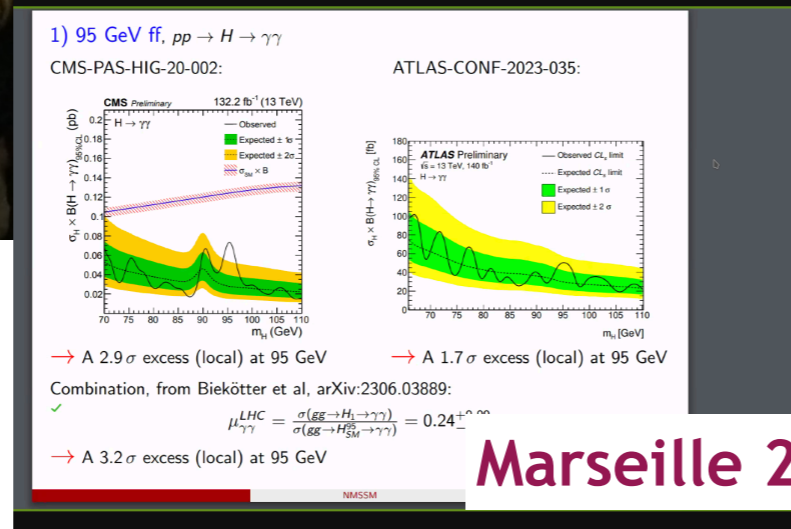
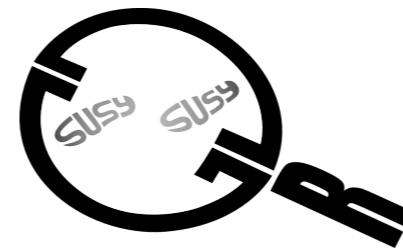
Annecy 2019



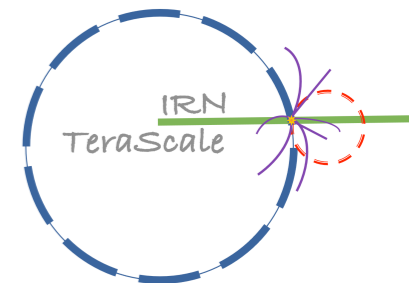
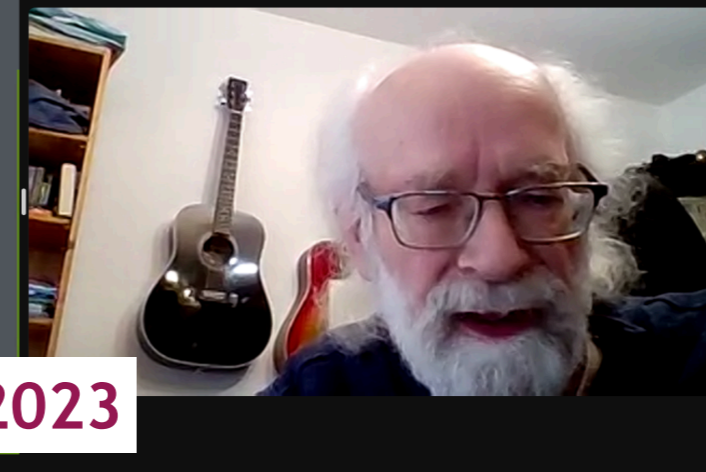
Bonn 2022



Nantes 2016



Marseille 2023



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**An incredibly knowledgeable, discreet and generous physicist,
and a warm, kind, unique human being**

Tributes to a wonderful colleague, mentor and friend

In addition to the many messages that were shared via the Terascale list, many colleagues, collaborators and friends penned down some messages in the family condolences page...

"lovely man with quiet intelligence and sweetness"

"true gentleman, a physicist of the highest caliber..."

"His modesty, despite his great experience in research..."

"Il était un physicien remarquable, un homme très chaleureux, toujours souriant, prêt à aider. Ça a été un honneur de le connaître et profiter de sa présence"

"... remarkable man and physicist... he taught me a lot with his usual smile and modesty"

" He was truly a remarkable man, full of joy of life and joy of physics....
he's been a reference for me, as a great physicist and as a man of great character..."

"He had a unique way of teaching...
... was a great person and had a real love and passion for physics..."

"Un physicien passionné et un homme exceptionnel..."

He will be deeply missed

Celebrating an amazing legacy



Terascale - 13 November 2024

Update of the EU Strategy for Particle Physics 2025

Preparation of GT1 contribution

EPPSU 2025 - GT1

A quick reminder of the calendar



French contribution (CEA/IRFU and CNRS/IN2P3): bottom-up approach

GT1 : Standard Model and beyond [IRN Terascale]

GT2 : Flavour physics and fundamental interaction tests [GDR Intensity Frontier]

GT3 : Neutrinos (especially Long-baseline) [IRN Neutrinos]

GT4 : QCD and heavy ion collisions [GDR QCD]

GTS Scenarios

Direct input deadline: **18 November (extended!)** **online depository** - <https://survey.in2p3.fr/ESPPU>

Symposium 20-21 January 2025 (Jussieu)

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