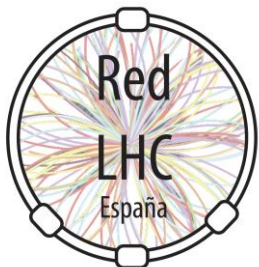


LHC Network: Status and Futuro

Carmen García



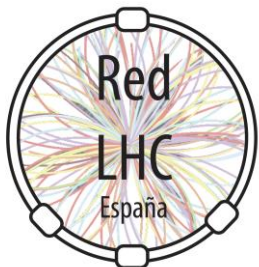
Many thanks to the organizers of the 4th LHC Workshop



Sven Heinemeyer



Juan Antonio Aguilar



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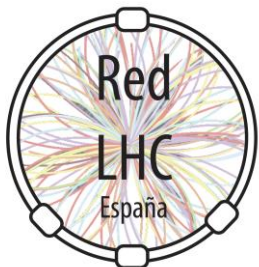
Carlos Escobar



Barbara Álvarez



Cibrán Santamaría



Many thanks to the organizers of the 4th LHC Workshop



Sven Heinemeyer



Juan Antonio Aguilar



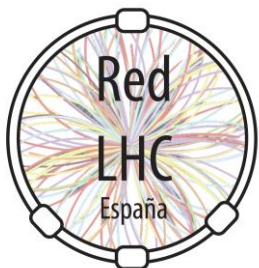
Carlos Escobar



Barbara Álvarez

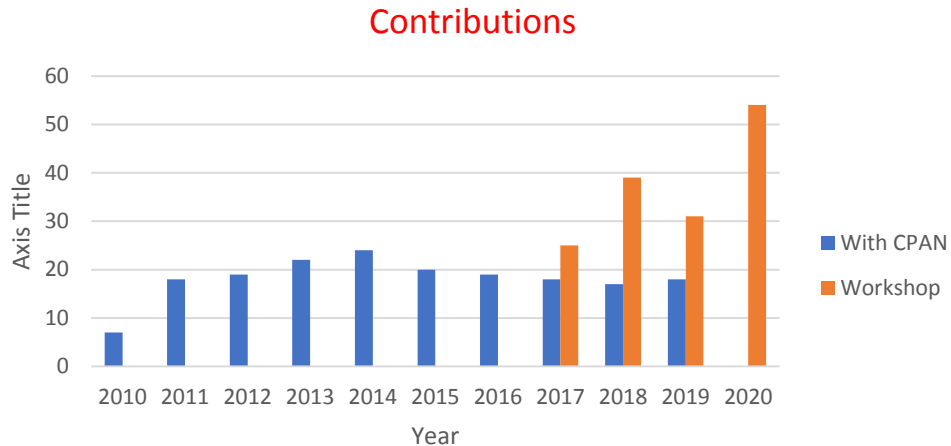


Cibrán Santamaría



LHC Network Overview

- First meeting in 2010 (within the II CPAN Days)
- Main activities: Annual General meeting with CPAN and LHC Workshop.



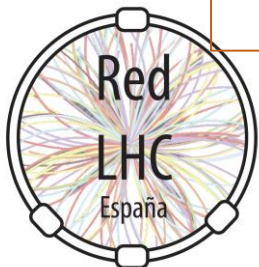
- The network has contributed with small budgets to many meeting, schools and workshops organized by the groups.
- Contributes to Spanish document for the European Strategy

RED2018-102340-T, funded for 2020 and 2021

Groups:

- **CIEMAT** (Isabel Josa Mutuberría)
- **IFAE** (Aurelio Juste Rozas)
- **IFCA** (Celso Martínez Rivero)
- **IFIC** (Carmen García García)
- **IFT** (Sven Heinemeyer)
- **IMB-CNM** (Miguel Ullán Comes)
- **UAM** (Juan Terrón Cuadrado)
- **UB** (Eugeni Graugés Pous)
- **UGR** (Juan Antonio Aguilar Saavedra)
- **UO** (Isidro González Caballero)
- **USC** (Cibrán Santamarina Ríos)

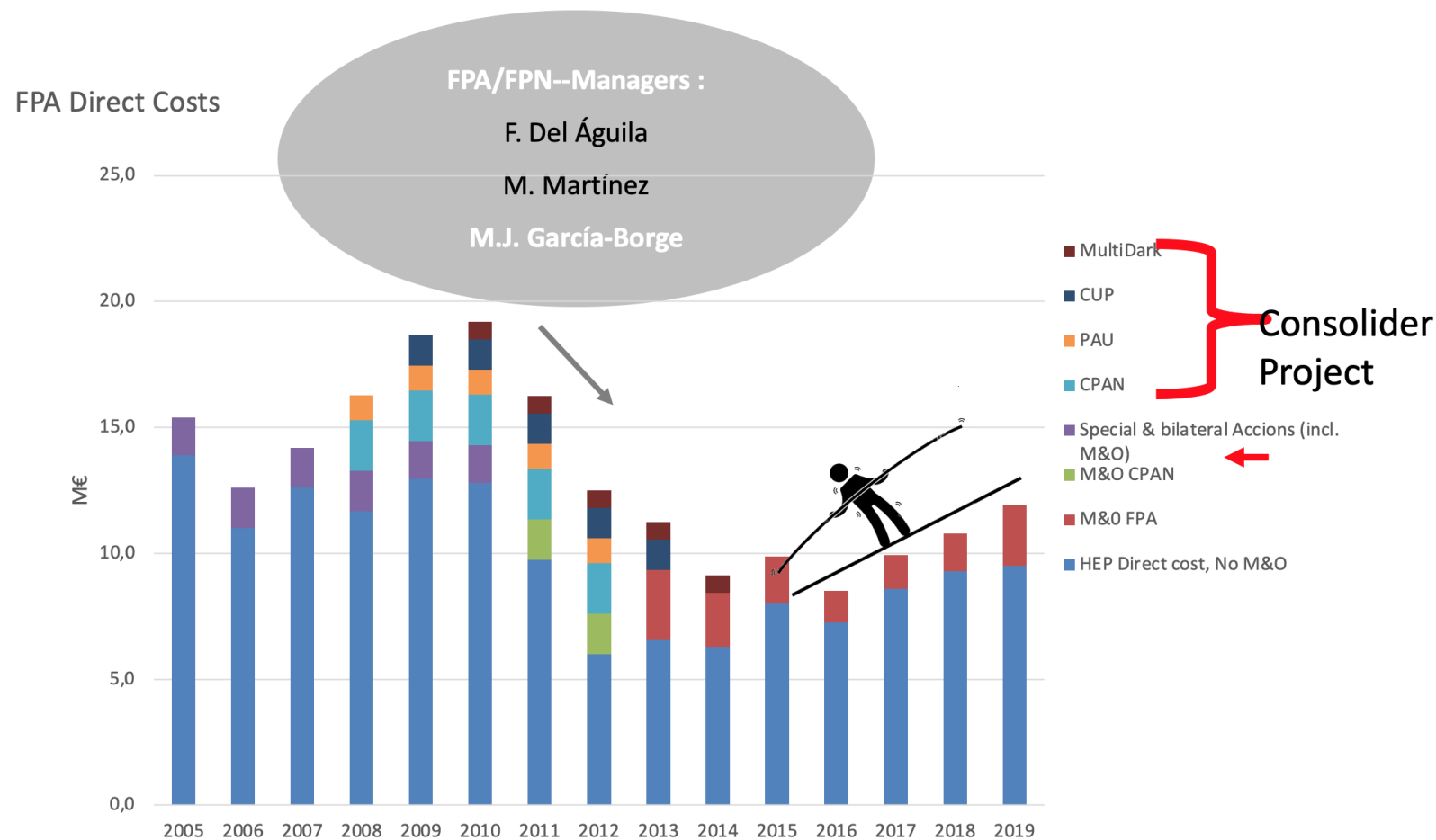
+ Computing (J. Salt and J. Hernández)



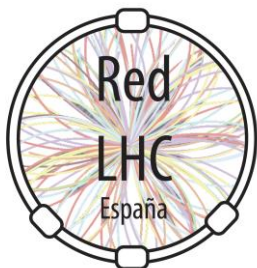
Relevant News from M. J Garcia-Borge @ XII CPAN DAYS



Relevant News from M. J Garcia-Borge @ XII CPAN DAYS



40 % Funding Reduction since 2009



Relevant News from M. J Garcia-Borge @ XII CPAN DAYS

- “The application of funds for networks will not open in 2020”.

This does not imply that they will not be open applications in the following years, but it should be taken into account. We must apply for a renovation in 2021, in the best scenario, there will be a larger competition.

Since the pandemic has not allowed us to spend our budget, we should request an extension beyond December 2021, but:

- “The request for a prolongation of the projects (prorrogas) has been evaluated by the Agency personnel.” (The request have to be well justified from a scientific point of view).
- “The FEDER Funds end in December 2021 and this conditions the approval of prologation of projects”. As far as I understand, the network funds do not include FEDER funds. BUT be aware if you plan to extend your project, even if the extension is approved, the Ministry can cancel it at the last minute (this was my experience few years ago)
- “The Ministry has approved (8th of September 2020) the EECTI.”(Estrategia Española de Ciencia, Tecnología e Innovación 2021-2027

<https://www.ciencia.gob.es/stfls/MICINN/Ministerio/FICHEROS/EECTI-2021-2027.pdf>



EECT-2021-2027

The objective is to double the public and private investment in research to reach **2.12 % of GNP** in 2027

Two Phases:

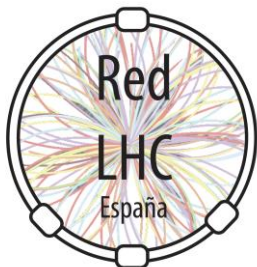
- 2021-2023: “Guarantee the strengths of the system, reinforcing current programming, infrastructures and human resources”. Esencial to support R&D+i in the health field, ecological transition and digitization, through specific programs
- 2024-2027: Consolidation → Develop the strategic priorities.

Strategic Priorities:

- Health
- Culture
- Security
- Climate, Energy and Mobility
- Food, Bio-economy, Environmental & natural resources

• Digital Wealth, Industry Space and Defense

- Artificial Intelligence and robotics
- Photonics and Electronics
- Internet & communication network
- **Mathematical modelling for Sciences and technology**
- **Astronomy, Astrophysics and Space Sciences.**
- New materials



EECT-2021-2027

Astronomy, Astrophysics and Space Sciences:

Observation of galaxies and exoplanets; asteroid observatory. Exploration of the Moon and Mars. Solar physics; Dark Energy and Dark Matter, X-Ray, Gravitational Waves, Ground and Space Instruments; Satellites; Astrophysical and space technology (navigation, Earth observation, satellite communications, space surveillance,...).

Mathematical modelling for Sciences and technology

New transversal tools (of analysis, statistics and data science, dynamical systems, computational geometry, ...) for the resolution of scientific and technological problems, frontier research in analysis of differential equations, biomathematics.



EECT-2021-2027

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Plan Nacional 2017-2020: Projects "Promoción General del Conocimiento" and "Retos"

"Retos":

1. Health, Demographic change and Well-being
2. Bioeconomy: Sustainability of Primary and Forest Production Systems, Food Safety and Quality, Marine and Maritime Research and Bioproducts
3. Safe, Efficient and Clean Energy
4. Sustainable, Smart, Connected and Integrated Transport
5. Climate Change and Use of Natural Resources and Raw Materials
6. Social Sciences and Humanities and Science with and for Society
7. Digital Economy, Society and Culture
8. Security, Protection and Defense



EECT-2021-2027

Astronomy, Astrophysics and Space Sciences:

Observation of galaxies and exoplanets; asteroid observatory. Exploration of the Moon and Mars. Solar physics; Dark Energy and Dark Matter, X-Ray, Gravitational Waves, Ground and Space Instruments; Satellites; Astrophysical and space technology (navigation, Earth observation, satellite communications, space surveillance,...).

Mathematical modelling for Sciences and technology

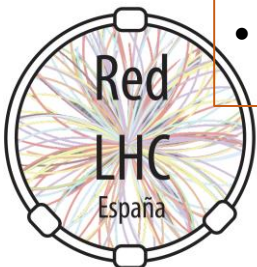
New transversal tools (of analysis, statistics and data science, dynamical systems, computational geometry, ...) for the resolution of scientific and technological problems, frontier research in analysis of differential equations, biomathematics.

- We should work with the CPAN, and in coordination with the other networks in our area, to ensure that in the development of EECT-2021-2027, particle physics will be reflected accordingly (some initiatives started in this direction).
- CERN is presented in the EECT as an example of the industrial return of a research infrastructure (170 MCHF in the period 2015-2019). However, the research carried out at CERN is not mention in the document.



Near future

- This year the network been standby (till the celebration of this workshop).
 - We have to plan the activities for 2021 assuming this uncertain situation. Likely, we will not be able (or we will not wish) to travel, at least in the first half of the year, but we should not stop the Network activities.
 - Return to the celebration of the 5th LHC Workshop in spring, and hopefully a face-to-face General Meeting in Winter.
 - We can still implement the "seminar network" (virtual or face-to-face), for this the groups must state which seminar they would like to host and which seminar they would like to give.
 - Also, organize/contribute to the organization of technical workshops (computing, software, instrumentation for the upgrades, ...), schools, collaborations meetings....
- BUT**
- Since may be difficult to travel and organizer large meetings, we have to define a strategy to use our budget optimally. We don't have much flexibility
 - Expenses: Organization and assistance to events organized by the network and [dissemination expenses](#).
 - New initiatives are welcome, please, contact the representative of your group.
 - Obviously we request an extension of the network for 2022.



Presentation of the groups

- First of all, I apologize for the tight schedule but the online format of the workshop was an opportunity to show the activities of the groups to a wide audience.
- First proposal: One talk for each group of the LHC Network (Theory and Experiment).
- After some iteration: some groups have come together, others have split, and others have stayed out. Sorry about this inhomogeneity. We will try to do better next time.
- We invited M. J. García-Borge to this session, but a previous commitment has not allowed her to attend.

Repeating “guidelines” from Sven talk:

- speakers: switch on your video
- chairs: switch on your video
- questioner: please, switch on your video
⇒so that it is not too virtual
- each talk has 5'+ questions at the end of the session
⇒WE WILL BE VERY STRICT!(in the talk time)
Remember: we can switch off your

