



# NATIONAL CENTER FOR PARTICLE, ASTROPARTICLE AND NUCLEAR PHYSICS

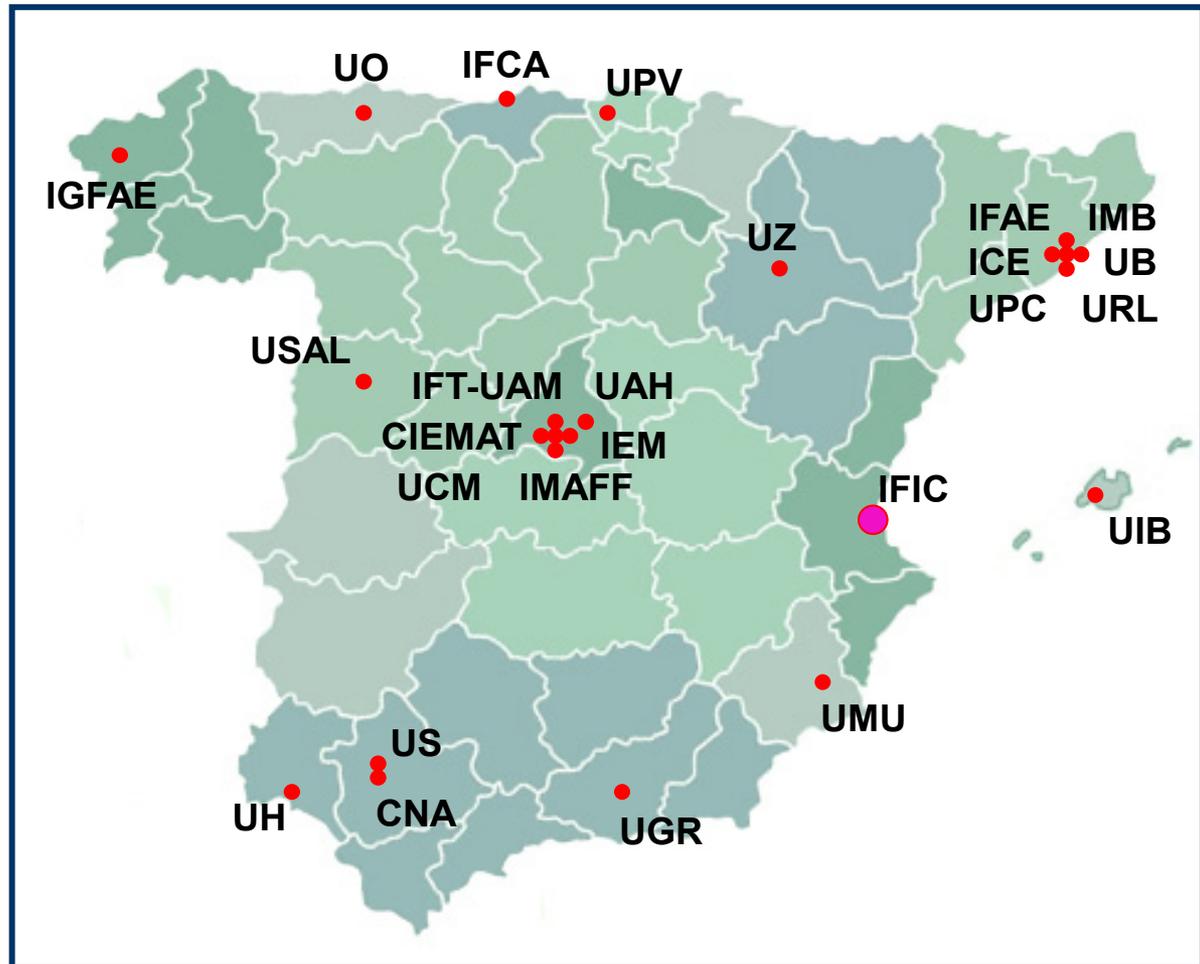


<http://www.i-cpan.es>

Consolider – Ingenio 2010

Project CSD2007-42

2007 – 2014



- ❑ **Very difficult moment** (economical crisis / political situation)
  
- ❑ **New law of Science, Technology and Innovation**  
General framework approved; legal regulations still missing  
“Plan Estatal de Investigación Científica, Técnica y de Innovación”
  
- ❑ **Funding Agency not created** (yet?)
  
- ❑ **Agreement with MICINN (2011)**
  - **Extend 2 years the CPAN-Consolider:** **9/12/2014**
  
  - **Redistribute the budget:** **Personnel increased**

# FUNDING

## ☐ CONSOLIDER – INGENIO 2010 :

2007	2008	2009	2010	2011
2 M€				

### Received

### Total

10.000.000

10.000.000 €

☐ CSIC : 800.000

1.000.000 €

☐ CIEMAT : 600.000

750.000 €

**TOTAL :** 11.400.000

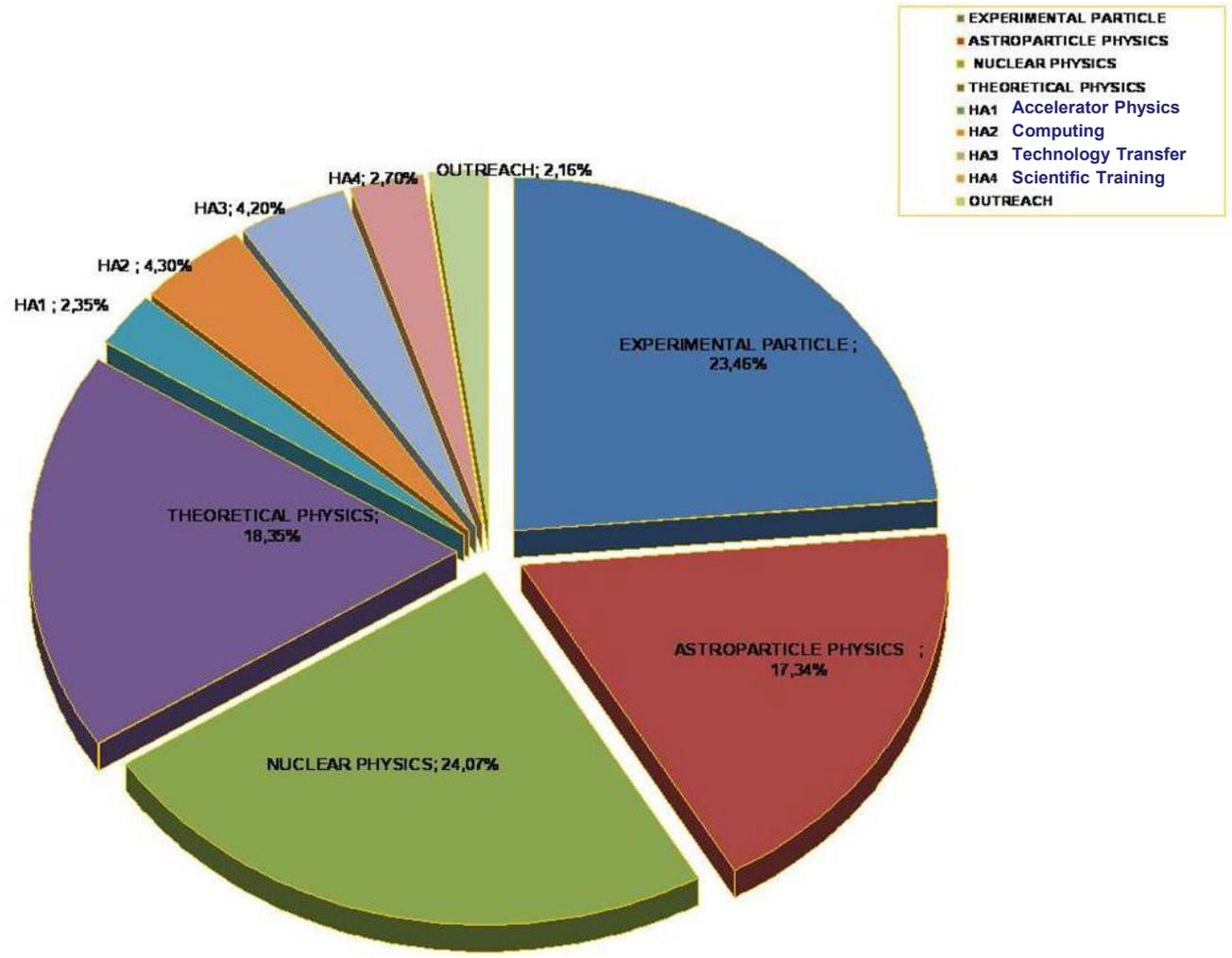
**11.750.000 €**

**Managing Institution: CSIC (IFIC)**

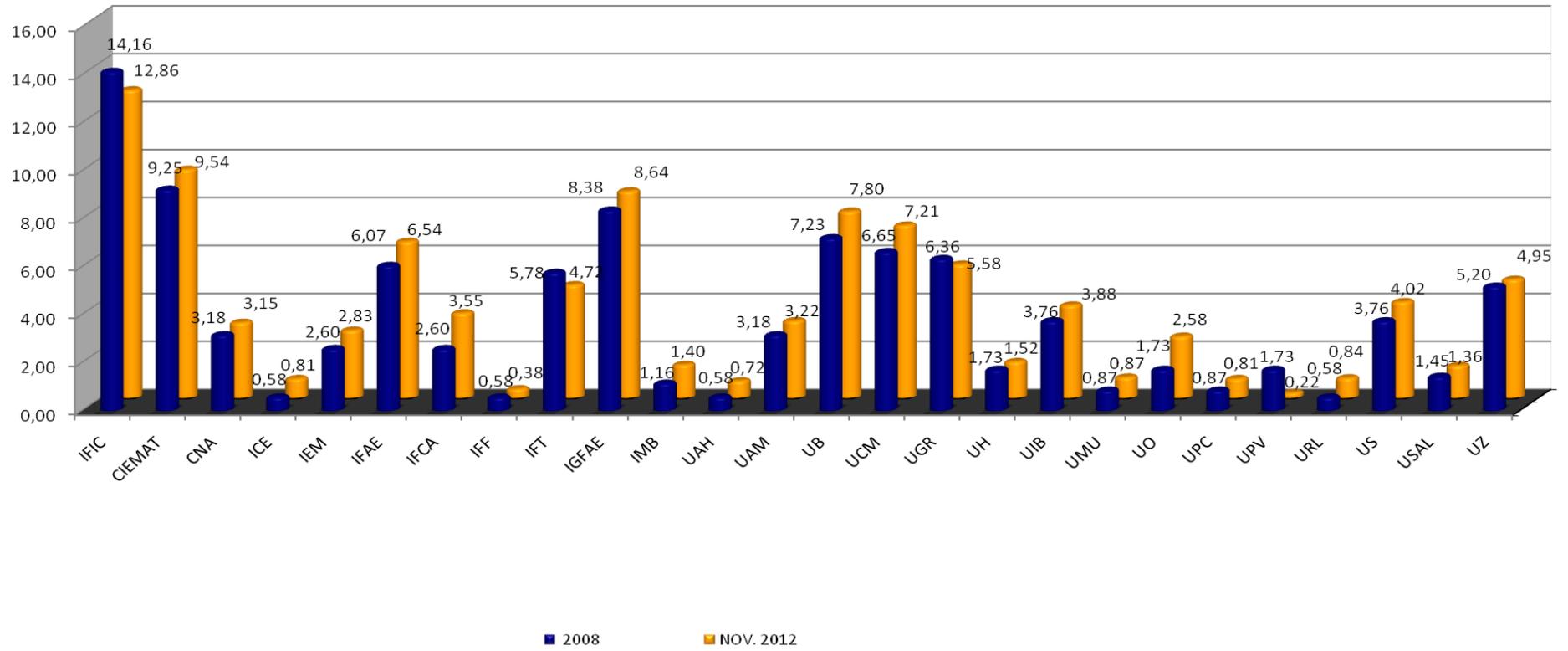
# FUNDED ACTIVITIES

- ❑ **Organization of scientific meetings 84** (schools, workshops, conferences)
  - **2008:** 5 schools and 6 conferences funded
  - **2009:** 5 schools and 16 conferences funded
  - **2010:** 4 schools and 13 conferences funded
  - **2011:** 6 schools and 17 conferences funded
  - **2012:** 4 schools and 8 conferences funded (Nov)
  
- ❑ **Human resources: 141** contracts already funded (42 active)
  - **2008:** 3 TM, 11 TS and 20 PD 32% foreigners
  - **2009:** 7 TM, 18 TS and 18 PD 28% foreigners
  - **2010:** 4 TM, 14 TS and 27 PD 46% foreigners
  - **2011:** 0 TM, 11 TS, 2 PD and 4 Seniors 35% foreigners
  - **2012:** 0 TM, 1 TS and 1 PD 50% foreigners
  
- ❑ **Outreach: Exhibitions, web, ...**
  
- ❑ **CPAN office: 5** contracts
  - 2 administrative (1/11/2008) + 3 (TT, Outreach, TIC; 2010)
  - 1 TIC contract (October 2009 – June 2010)

# FUNDING DISTRIBUTION



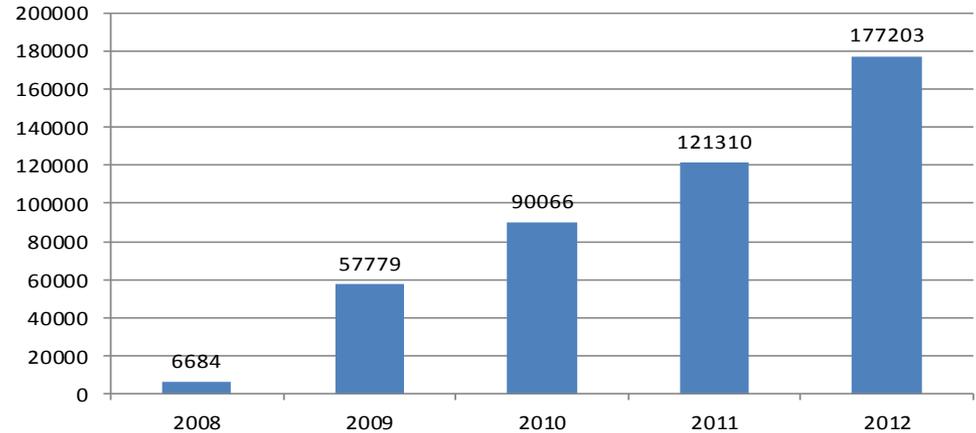
# FUNDING DISTRIBUTION



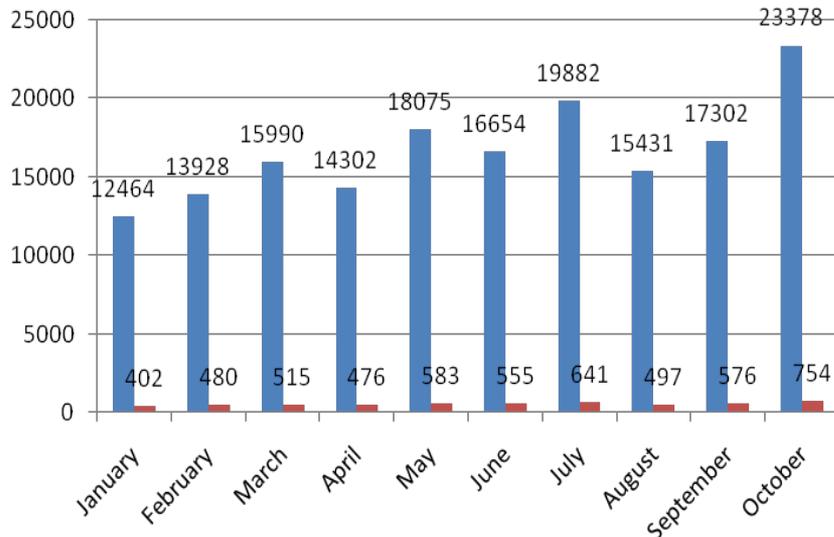
# OUTREACH

**Accumulated: 453.042 visits**  
(Nov. 2008 – Oct. 2012)

**CPAN web page visits/year**



**CPAN web page, visits/month (2012)**



## More visited contents:

- News (redirected from Twitter)
- IES Talks
- IV CPAN DAYS

## Countries by number of visits:

**Spain, USA, Mexico, Colombia, Chile, Argentina, Peru, Venezuela...**

## New CPAN webpage, June 2012



**Noticias**

**Convocatorias y Eventos**

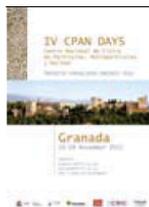
**Divulgación**

**Transferencia de Conocimiento y Promoción Tecnológica**

**Información Institucional**

**Intranet**

## 22/11/2012 Las IV Jornadas CPAN se celebran en Granada



Del 26 al 28 de noviembre los grupos españoles en Física de Partículas, Astropartículas y Física nuclear comparten los avances realizados en sus áreas este año, marcado por el descubrimiento de una nueva partícula en el LHC. El Parque de las

Ciencias acoge una charla para el público sobre el tema.

## 20/11/2012 Observan la ruptura de simetría en el tiempo en las leyes de la Física



La colaboración internacional del experimento BABAR, del laboratorio SLAC (Stanford, EE.UU.) publica en Physical Review Letters la primera

evidencia de la ruptura de la simetría bajo inversión temporal en mesones B. Investigadores del Instituto de Física Corpuscular (IFIC, CSIC-UV) han liderado el trabajo.



**Charlas en IES**



CPAN\_Ingenio Hasta el 10 de dic en @fcienciasugr 'El instrumento científico más grande jamás construido: Una exposición del CERN' i-cpan.es/expocern/index...

2 days ago · reply · retweet · favorite



**EL PAÍS**  
EL PERIÓDICO GLOBAL EN ESPAÑOL

**A solas con la prueba del VIH**  
El primer test rápido de diagnóstico de la infección por el virus de la inmunodeficiencia humana (VIH) se ha comercializado en España.

**De Villota pierde el tigo derecho**  
El piloto de Fórmula 1 ha sido sancionado por el FIA por haberse presentado a la carrera de la última semana sin haberse inscrito correctamente.

**Pistorius estará en los Juegos**  
El atleta sudafricano con prótesis de piernas participará en los Juegos Olímpicos de Londres 2012.

**Hallada la partícula clave para la comprensión del universo**  
El acelerador de Ginebra da con el bosón de Higgs, que explica el origen de la masa. EL CERN: 'Es un hito en la explicación de la naturaleza'.

**La Audiencia Nacional imputa a toda la cúpula de Bankia**  
El juez catalán ordena que se imputen a todos los miembros de la dirección de Bankia, desde el presidente hasta el secretario general.

**Arafat será exhumado para determinar si lo envencionaron**  
El cuerpo del líder palestino será exhumado para determinar si fue asesinado por un atentado con gas.

**Una joya medieval entre bolsas de basura**  
La policía recupera el Códice Calixtino un año después de su misterioso robo.

**ELIGE CON QUÉ**  
ACIERTA CON RUEDA



**EL MUNDO**  
LA TERCERA DE ESPAÑA

**Descubren el 'cemento' de la materia**  
El acelerador de Ginebra da con el bosón de Higgs, que explica el origen de la masa. EL CERN: 'Es un hito en la explicación de la naturaleza'.

**La Audiencia dirá si Rato orquestó un engaño masivo al lanzar Bankia**  
Dimitir tras ser incluido entre los 33 imputados el consejero delegado que Goigorrizarri mantuvo en su cargo.

**El trágico fin del suceso de María de Villota**  
Salva la vida pero no puede volver a la F1 al perder el tigo derecho.

**El electorista tenía el Códice entre los trastos del garaje**  
Manuel Fernández Castiñeiras acudía cada día a misa en la Catedral de Santiago pero no comprobaba desde que lo robó.

**El Códice Calixtino se encuentra**  
El Códice Calixtino se encuentra en el garaje de un electorista.



**IDEAL**  
80 años

**Junta y Ayuntamiento abren una etapa de diálogo tras nueve años de broncas**  
El vicepresidente Valderas y el alcalde Torres Hurtado escenifican con un abrazo la voluntad de alcanzar pactos.

**Rato y 32 exconsejeros de Bankia declararían como imputados ante el juez**  
La Audiencia Nacional ordena que la quibla pueda acooger a todos el sector.

**SANTIGO CASO BIEN DATADO DE PARO EN PARTE**  
Que haya 2,38 millones de parados en España, a los que se suman los que están en paro pero no se les ha dado de alta en el padrón municipal, es el resultado de una mala gestión de los datos.

**Sin el bosón de Higgs, usted no estaría aquí**  
Científicos anuncian el hallazgo de una partícula que podría ser la que dio masa a todas las demás.

- 1.736 visits to CPAN webpage (<http://www.i-cpan.es/detalleNoticia.php?id=255>).
- Distributing CERN news release highlighting the Spanish participation and background information.
- Press conference at CIEMAT (Madrid) with representatives of Spanish experimental groups in ATLAS and CMS. Journalists from: El País, El Mundo, Materia, EFE, Europa Press (prensa y TV), Expansión, La Razón, ABC, revista QUO; SER, RNE, Onda Cero, Cadena COPE, Punto Radio; TVE, Antena 3, Mediaset (Cuatro-Tele 5), La Sexta, Telemadrid, TV3, NTN24 (televisión Colombia). More info: <http://www.i-cpan.es/detalleNoticia.php?id=257>
- Following media impact: digital meeting with Pablo García (CIEMAT) in elmundo.es; Interview to Antonio Pich in A vivir que son dos días (SER); article by Teresa Rodrigo y Martine Bosman in Investigación y Ciencia (Sept. 2012).
- Vídeo 'El campo de Higgs' in YouTube channel: 91.330 views. Used by national media such as ABC.es (31.036 views from this source).

# III CPAN OUTREACH CONTEST

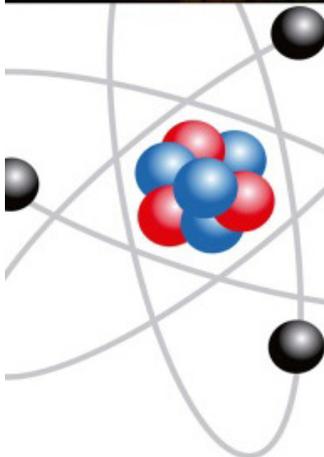
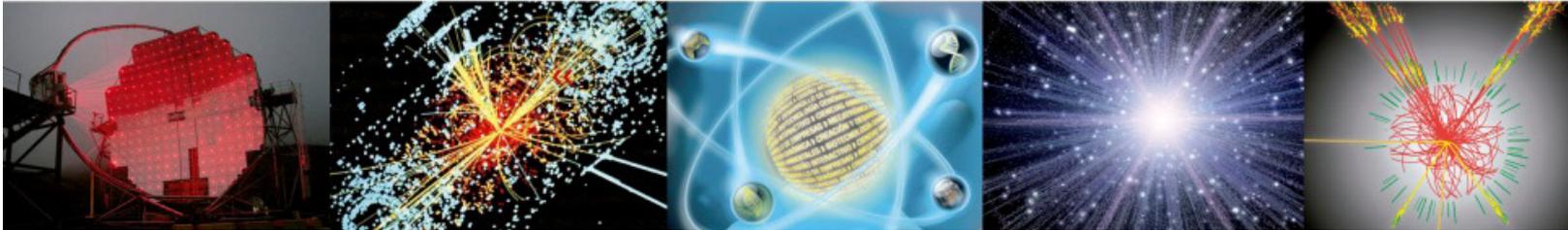
## 52 works received:

- 13 Outreach articles
- 8 Webs/blogs
- 5 Videos
- 2 Experiments
- 24 Publications in Media

<http://www.i-cpan.es/concurso3/>

## III CONCURSO DE DIVULGACIÓN CIENTÍFICA CPAN

Proyecto Consolider-Ingenio 2010 Centro Nacional de Física de Partículas, Astropartículas y Nuclear



### MODALIDADES Y PREMIOS

Se convoca un premio en cada una de las siguientes modalidades:

- « Artículos de divulgación. 1.000 €
- « Webs/blogs. 1.000 €
- « Vídeos. 1.500 €
- « Experimentos y/o demostraciones. 1.500 €
- « Trabajos publicados en medios de comunicación. 1.000 €

### TEMÁTICA

Trabajos que versen sobre finalidades, resultados de la investigación y desarrollos tecnológicos relacionados con Física de Partículas, Astropartículas y Física Nuclear.

### PARTICIPANTES

Personal investigador de organismos públicos y privados, estudiantes de doctorado y grado, profesorado de educación secundaria y profesionales de la divulgación científica. La participación puede ser individual o en grupo, pudiendo optar a una o varias modalidades.

### PLAZO

El plazo de presentación de trabajos finaliza el domingo, 1 de julio de 2012, incluido.

### BASES Y CONTACTO

La inscripción se realizará a través de la web [www.i-cpan.es/concurso3/](http://www.i-cpan.es/concurso3/), donde se pueden descargar las bases del concurso.

Contacto: [comunicacion@i-cpan.es](mailto:comunicacion@i-cpan.es)

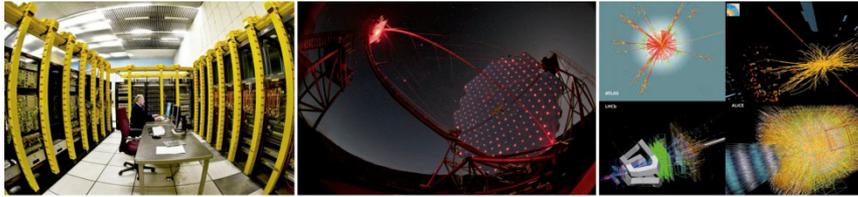
Teléfono: 96 354 48 46

ORGANIZA



COLABORAN

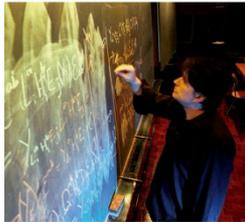




## Física de partículas en el instituto

Conferencias de divulgación del CPAN

El Centro Nacional de Física de Partículas, Astropartículas y Nuclear (CPAN) ofrece durante el curso académico una serie de charlas divulgativas, a demanda, para Institutos de Educación Secundaria. Un completo recorrido por disciplinas científicas en la frontera del conocimiento que buscan respuesta a preguntas esenciales.



- › De qué están hechas las cosas
- › Cómo se formó el Universo donde vivimos
- › Y la materia que nos compone
- › Cómo evolucionará el Universo
- › Podemos mejorar nuestro aprovechamiento de la energía
- › Y mejorar el diagnóstico de enfermedades



- Los temas de las conferencias que se ofrecen a los centros educativos abarcan los ámbitos donde trabajan los grupos de investigación del CPAN:
- La Física Experimental de Altas Energías y el LHC, el mayor acelerador de partículas del mundo.
  - Las teorías sobre el origen y final del Universo realizadas por los experimentos que se realizan en Física de Astropartículas.
  - Las investigaciones más actuales en Física Nuclear, relacionadas con sus aplicaciones en diagnóstico y terapia médica o en energía.
  - Las bases teóricas de todo esto, la Teoría de la Relatividad de Einstein.

Esta actividad se desarrolla hasta el final del curso.

VISITE LA WEB PARA VER EL LISTADO DE CENTROS Y CHARLAS OFERTADAS:

[www.i-cpan.es/bachillerato](http://www.i-cpan.es/bachillerato)

CONTACTO CPAN

96 354 48 46 [comunicacion@i-cpan.es](mailto:comunicacion@i-cpan.es)

<http://www.i-cpan.es/bachillerato/>

**Goal:** To bring CPAN working areas to the Spanish High Schools.

### CPAN Groups involved:

IFAE, UGR, UHU, CIEMAT, UCM, IEM, UO, UIB, USAL, IFCA, IGFAE-USC, CNA, IFIC, UZ.

### Activities:

- **Talks in IES.** 100 applications in 2011. 150 in 2012.
- **National Masterclass on Particle Physics.** 1st Edition in 2011 during Science Week. CPAN groups: CIEMAT, IFIC, IFCA, USC, UZ. 250 students. 2nd edition (2012), CIEMAT. 35 students.

## ACADEMY-INDUSTRY MATCHING EVENT ON SUPERCONDUCTIVITY

CIEMAT, 27-28 May 2013



### Objectives

- To introduce the industry to the technological- and R&D-needs of the Particle Physics community, as well as the needs of other sectors, energy, life science, security and material research...
- To advance R&D collaborations between academia and industry
- To offer companies the opportunity to meet with researchers and present their activities and products

### Indicators 2011

- Patents: 10
- Copyright: 2
- R+D Contracts: 9
- Academy-Industry Projects: 5
- Spin-off: 4
- Meetings: 3

# Report of CPAN International Advisory Committee (IAC) October 2011

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This report is based on presentations at the CPAN Executive Committee/IAC meeting which took place in Madrid on 18<sup>th</sup> and 19<sup>th</sup> October 2011.

The IAC understands that significant progress towards a new national organization of the field is delayed given the present financial and political context. The IAC strongly believes that an interruption of CPAN activities after 2012 would imply severe risks of disruptions to the Spanish program. It therefore welcomes the recent decision to extend the mandate of CPAN by two years, 2013 and 2014. The IAC thinks that, in spite of the absence of extra resources, this period should allow CPAN to accomplish its most important missions and bridge the gap until an agreement can be reached on a new organization.

The CPAN investment has provided significant added- value to the Spanish programs. From the presentations heard during the open meeting, the IAC could appreciate the impressive progress achieved through CPAN actions :

- An increased visibility of Spanish experts who have leading international responsibilities in several important experiments and international committees
- A very significant progress in dealing with outreach aspects as exemplified by the creation of a rich web page <http://www.i-cpan.es/index.php?Idioma=es>
- A successful role in organizing several major international meetings and workshops
- A important role in reinforcing collaborations between experimentalists and phenomenologists, largely due to CPAN recruitments of young theorists
- CPAN has significantly alleviated a weakness in the Spanish career structure for qualified technicians & engineers, vital for supporting major experiments and for technology transfer

Many other promising initiatives were taken which, in the near future, should allow the development of Spanish strategies in the fields covered by CPAN. In this respect, the IAC believes that CPAN should become more directly involved in international initiatives. As an example CPAN should prepare for the European Strategy discussion which will take place next year to define European priorities on LHC, future colliders and neutrino facilities. CPAN could then provide valuable advice and support to the Spanish authorities on the CERN strategy. Similarly this advice could also be provided on FAIR.

The IAC strongly believes that CPAN should start organizing an international peer reviewing of its activities. The present very ambitious programs seem certain to face financial cuts requiring difficult choices. This review body would reinforce the role of CPAN and of the National Program in setting priorities to optimize the impact of Spanish investments in the field. We recognize that this initiative requires a consensus between the relevant partners and must be supported by the community. The review body also needs to take into account regional balance in sharing the resources: the committee should include an appropriate combination of international and Spanish members.

In conclusion, we wish to congratulate CPAN for its various fruitful achievements and hope that in the near future significant steps can be taken towards a national organization indispensable to develop an international strategy.

Signatures:

Luis Álvarez-Gaumé, Theory Group, CERN

William Gelletly, Professor Emeritus at University of Surrey

Francois Richard, Directeur de recherche Emeritus au Laboratoire de l'Accélérateur Linéaire d'Orsay

Alan Watson, Professor Emeritus at Leeds University

**Input to the European Strategy Preparatory Group provided by CPAN (Centro Nacional de Física de Partículas, Astropartículas y Nuclear) on behalf of the Spanish scientific Particle Physics community**

It is the purpose of this document to summarise the general views of the Spanish community concerning the update of the European Strategy for Particle Physics which has been launched by the European Strategy Session at the CERN Council.

A summary of the status and the Spanish priorities in the field of Particle Physics was produced in 2006 when the process of setting up the European Strategy started. The creation of a National Institute was one of the main goals in order to consolidate the progress reached in Particle, Astroparticle and Nuclear Physics in our country. It was considered that Spain needed critical mass in key areas, more coordination and networking among the different Institutes, increased sharing technical and industrial support, and a stable and reliable framework of funding, as well as a more structured community. Although such a National Institute is still pending, the creation of CPAN at the beginning of 2008, in the framework of the so-called “Consolider” Program, had the aim of accomplishing at least some of these needs. It has largely succeeded in doing so.

Concerning the input required by the Preparatory Group for this strategy update, it was therefore easy to agree, not only by all the research groups but also by our funding agency that CPAN should take care of coordinating the preparation of a single document trying to include, whenever possible, the general views of the whole Spanish scientific community. Working groups were organized, each covering a different area, and meetings took place profiting from several existing national thematic networks in order to discuss and try to achieve a basic agreement for the Spanish roadmap at the strategic level in the field of Particle Physics. It is far from being really finished in many areas, but the present document can be considered a starting point, and we hope it is useful for the Preparatory Group to get some general information of the Spanish interests, the present involvement in main experiments, and plans for the future.



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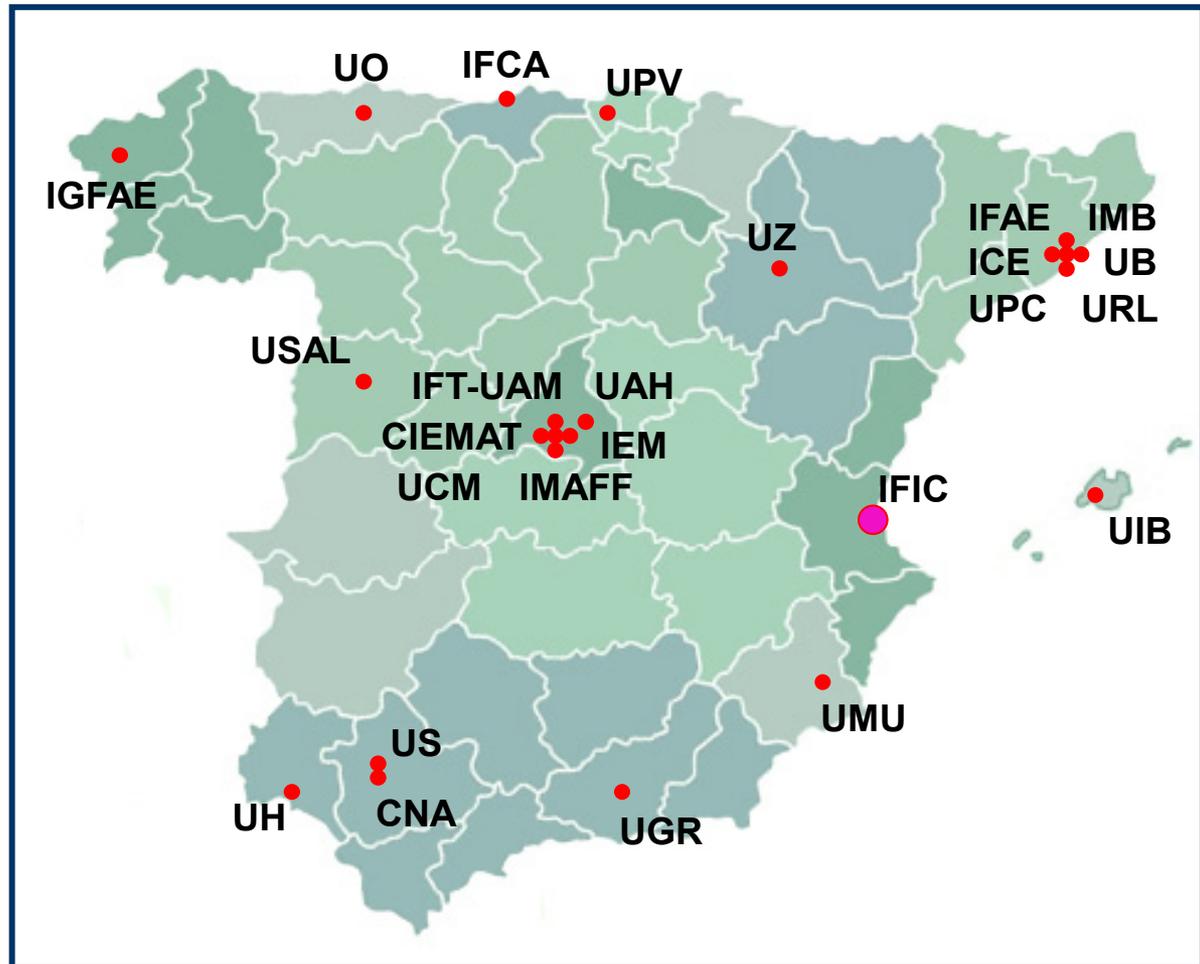


<http://www.i-cpan.es>

Consolider – Ingenio 2010

Project CSD2007-42

2007 – 2012





# LHCP-2013 in Barcelona

M. Martinez (on behalf of the Local Organizing Committee)



**New Large Hadron Collider Physics Conference**

**The result of the merging of two main series of conferences**

**Hadron Collider Physics (HCP)  
Physics at the LHC (PLHC)**

**First edition: LHCP 2013 in Barcelona  
13<sup>th</sup> – 18<sup>th</sup> May 2013**

**This promises to be one of the most important conferences in 2013**

**Dates were selected such that this might be the conference where the “final word” on Higgs results are presented for the first time together with searches using the full LHC dataset**

# LHCP 2013

## First Large Hadron Collider Physics Conference BARCELONA, May 13<sup>th</sup> - 18<sup>th</sup>, 2013

### SCIENTIFIC SECRETARIAT

A. Juste (IFAE/ICREA)  
I. Riu (IFAE)

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A. Juste (IFAE)

### CONFERENCE SECRETARIAT

S. Strauch (IFAE)  
C. Porter (IFAE)

Contact: [lhcp2013@ifae.es](mailto:lhcp2013@ifae.es)  
<http://lhcp2013.ifae.es>



# LHCP 2013

**We foresee an attendance of approximately 400 people**

**In such difficult times we live in (as a community) we should use the opportunity to get back the attention of the funding agencies and the general public**

**And clearly we look forward for CPAN support ..**

First Large Hadron Collider Physics Conference  
BARCELONA, May 13<sup>th</sup> - 18<sup>th</sup>, 2013

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C. Padilla (IFAE)  
I. Riu (IFAE)  
V. Sorin (IFAE)  
A. Juste (IFAE/ICREA)

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S. Strauch (IFAE)  
C. Porter (CERN)



# LHCP 2013

Barcelona, Spain, May 13-18th, 2013

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Program

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## Conference Information

Bulletin

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Committees

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Abstracts, Posters & Proceedings

Social Program

Participants

## General Information

Accommodation

Practical and Tourist Information

## Welcome to the Large Hadron Collider Physics Conference

We are delighted to welcome you to the First LHCP Conference

The conference is the result of merging two series of international conferences, "Physics at Large Hadron Collider" ([PLHC2012](#)) and "Hadron Collider Physics Symposium" ([HCP2012](#)). With a program devoted to topics such as the Standard Model and Beyond, the Higgs Boson, Supersymmetry, Beauty and Heavy Ion Physics, the conference aims at providing a lively forum for discussion between experimenters and theorists of the latest results and of new ideas.

<http://lhcp2013.ifae.es>

LHCP 2013 will be hosted by [IFAE](#) **contact:** [lhcp2013@ifae.es](mailto:lhcp2013@ifae.es) in Barcelona (Spain), and will take place from May 13 to 18, 2013. The venue will be the Hotel Catalonia Barcelona Plaza, in Plaça Espanya (Barcelona). More information will be posted soon. For questions, please contact [lhcp2013@ifae.es](mailto:lhcp2013@ifae.es).