As proposed in our Action Plan, since last year the CSIC’s annual activity report has ceased to be published in print format. The 2009 Annual Report will therefore be posted on our website, along with those of previous years, this being the most appropriate means to ensure that staff at all our centres and institutes, as well as all other interested parties, are able to access the information compiled in the annual report.

It is not easy to pick out just a few of the activities taking place at the organisation during this year for a special mention, but I think that it is worth noting in particular the centres and institutes that completed construction of new scientific facilities in 2009, an activity that is associated with the CSIC’s challenge of providing the tools and structures needed to do better research, and above all to increase its critical mass in certain scientific fields. Many of these new facilities have been created through agreements with other entities. These new facilities include the buildings of the Estación Experimental de Zonas Áridas (Arid Zone Experimental Station), the Centro de Ciencias de Benasque (Benasque Science Centre), the Instituto de Investigación en Ciencias de la Alimentación (Food Science Research Institute) and the new animal house at the Centro de Biología Molecular (Centre for Molecular Biology).

The Area and Institutional Coordinators’ summaries highlight some of the accomplishments achieved during 2009 in the field of scientific and technical research. In general, no doubt the most important were once again the CSIC’s research and knowledge transfer indicators, which
show that the organisation has once again managed to increase both the quantity and quality of its scientific publications. Similar progress was achieved in terms of the number of patents, projects, agreements and contracts. Part of these results are a consequence of the increase in human resources, in terms of technicians and management staff, as well as researchers. This has allowed us to remain the driving force behind world-class research in Spain, as well as knowledge production and its transmission to the society to which we owe our existence.
The Spanish National Research Council (CSIC) has 7 research centres and 128 institutes distributed throughout Spain’s Autonomous Regions; 77 of these centres are run by the CSIC alone and 51 are jointly managed with other organisations. It also runs seven major scientific facilities, including the Juan Carlos I Antarctic Base, the Calar Alto Astronomical Centre, and the Sarmiento de Gamboa Oceanographic Research Vessel. It also participates in the European Synchrotron Radiation Laboratory and the Max von Laue-Paul Langevin Institute.

1. Multidisciplinary scientific and technical research
2. Scientific and technical advice
3. Transferring research outputs to business
4. Contributing to the creation of technology-driven companies
5. Training specialised personnel
6. Managing infrastructure and large facilities
7. Promoting scientific culture
The CSIC is a multidisciplinary organisation, covering the whole range of fields of knowledge, from basic research through to the most advanced technological development. It is organised into eight Scientific Areas.
13,538 people work at the CSIC

6,610 men
6,928 women

Women and Science

The Gender Equality in Scientific Careers Plan and the CSIC’s Women and Science Committee promote equality of opportunity between men and women.

4,010 scientists
1,435 trainee researchers (CSIC)
6,321 R&D support personnel
1,772 administrative and management
Financial resources

Spending by type

- **52.54%** staff
- **24.72%** operating expenses
- **22.74%** investments

ESF/ERDF (1):

- **1.7 M€**

Work in progress

<table>
<thead>
<tr>
<th></th>
<th>No.</th>
<th>Estimated cost €m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accepted</td>
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<td>22.73</td>
</tr>
<tr>
<td>Pending acceptance</td>
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<td>59.22</td>
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<tr>
<td>Under construction</td>
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<td>117.89</td>
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<td>Call for tender</td>
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<tr>
<td>Planning stage</td>
<td>6</td>
<td>42.02</td>
</tr>
</tbody>
</table>

Total

- **858.7 M€**

From the State

- **562.7 M€**

Competitive funds

- **294.3 M€**

Computing

**ICT infrastructure**

- Centre and institute access network
- Communications and security infrastructure
- Server infrastructure
- Corporate software managed: 10,441 requests
- Database integration project
- Financial and inventory management systems
- Human resource management systems
- Scientific activity management systems

**Computer security**

- Security Master Plan

**Scientific Calculation**

- SGAII calculation resources

(1) ESF: European Social Fund, ERDF: European Regional Development Fund.
2,993 research projects in all areas of knowledge with funding of 539.8 million euros*

1,991 funded by national R&D programmes (332.8 million euros)

432 funded by the European Union (130.8 million euros)

472 funded by the Autonomous Regions (59.5 million euros)

98 funded by the Health-care Research Fund (16.7 million euros)

* Funding data correspond to total funding committed for projects in the accounts and not the amount actually spent in 2009.
Scientific output

9,754 SCI/SSCI papers
1,962 Non-SCI/SSCI papers
368 Books
795 Doctoral theses
180 Patents

European projects

176 projects funded by the 6th Framework Programme (59.5 million euros)
184 projects funded by the 7th Framework Programme (56.5 million euros)
72 projects funded by other European programmes (14.7 million euros)
Knowledge transfer

3,235 contracts and agreements with companies and institutions, with funding of 84.1 million euros

185 Spanish patent applications

119 International patent applications

51 exploitation licence contracts

2,920 trainee researchers

1,611 women

1,309 men

91 postgraduate and specialisation courses

1,435 CSIC

81 CCAA

1,157 MICINN

247 others

Encouraging public participation in Science www.cienciatk.csic.es, 00 documentaries, 11,800 photographs, 60 sounds relating to science and technology, all of which are available online.
Scientific Culture

Real Jardín Botánico
Royal Botanical Garden
- 485,357 visitors
- 38,188 participants in the science education and popularisation programme

Casa de las Ciencias

Museo Nacional de Ciencias Naturales
National Natural Sciences Museum
- 1,100 workshops, with the participation of 27,500 pupils
- A total of 61,592 people took part in 2,434 sessions run by the museum.

Outreach venues

Residencia de estudiantes

Fotciencia7
- 673 photographs were submitted to the Fotciencia7 national scientific photography competition.

Residència d’Investigadors

CSIC en la Escuela
CSIC in schools
- A project in which researchers and teachers work together to promote science teaching in the early stages of education.

Residencia de Estudiantes

Encouraging public participation in Science

www.cienciatk.csic.es
- 3,200 documentaries,
- 11,800 photographs,
- 260 sounds relating to science and technology, all of which are available online.

With activities in CSIC
- 88 centres and institutes

Science and Technology Fairs and Weeks
- 268 activities in all Spain’s Autonomous Communities

Promoting a vocation for science

Other fairs: Madrid Book Fair, 9th Science Week, 7th Seville Science Fair, etc.

Science teaching and education

Science and Technology Fairs and Weeks

Other fairs: Madrid Book Fair, 9th Science Week, 7th Seville Science Fair, etc.

Promoting a vocation for science

Participation in research competitions, such as Arquímedes, Jóvenes Investigadores, Ciencia en Acción, Robolot, Exporecercia Jové, etc.
Publications

12,000
in the publications collection

125
titles published in 2009

77
live collections

34
journals, which can be consulted online at http://revistas.csic.es/index.html

Library network

78
libraries

3
databases of bibliographical records prepared in-house

17,500
digital documents available for open access at Digital.CSIC, the institutional repository which keeps an archive of the intellectual output of the CSIC’s research activity
Disseminating science is crucial in an democratic society

65% of Spain’s inhabitants recognise the CSIC’s “brand”

Communication

330 television appearances
421 radio appearances
10,001 mentions in the press
18,789 mentions on the Internet

Topics of greatest interest

The International Year of Astronomy, bicentenary of Darwin’s birth and 150th anniversary of the publication of “On the Origin of Species,” presence of CSIC researchers during the break up of the Wilkins ice shelf in the Antarctic, continuation of three research projects on the Neanderthals, excavations in Egypt, a potential vaccine for HIV, and the Antarctic campaign and refurbishment of the Juan Carlos I Antarctic Base.
Scientific Areas

Consejo Superior de Investigaciones Científicas

Spanish National Research Council
Scientific Areas

The CSIC is a multidisciplinary organisation, covering the whole range of fields of knowledge, from basic research through to the most advanced technology development. It is organised into eight Scientific/Technical Areas.

1. Humanidades y Ciencias Sociales
   Humanities and Social Sciences
2. Biología y Biomedicina
   Biology and Biomedicine
3. Recursos Naturales
   Natural Resources
4. Ciencias Agrarias
   Agricultural Sciences
5. Ciencia y Tecnologías Físicas
   Physical Science and Technology
6. Ciencia y Tecnología de Materiales
   Materials Science and Technology
7. Ciencia y Tecnología de Alimentos
   Food Science and Technology
8. Ciencia y Tecnologías Químicas
   Chemical Science and Technologies
2,993 research projects

Distribution of spending by areas

961.2 M€ total expenditure
Area 1

Humanidades y Ciencias Sociales

**Scientific output**

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCI/SSCI papers</td>
<td>331</td>
</tr>
<tr>
<td>Non-SCI/SSCI papers</td>
<td>476</td>
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<tr>
<td>Books</td>
<td>198</td>
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<tr>
<td>Doctoral theses</td>
<td>49</td>
</tr>
<tr>
<td>Patents</td>
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</tr>
</tbody>
</table>

**Knowledge transfer**

177 contracts and agreements with companies and institutions, with funding of 5.2 million euros.

**Lines of research**

Anthropology, political science, economics, philosophy, geography, history, linguistics and sociology.
Biología y Biomedicina
Biology and Biomedicine

23 institutes

2,930 people

188.3 M€ expenditure

792 research projects funded, at a total cost of 175.3 million euros

Scientific output

<table>
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<th>Category</th>
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<tr>
<td>SCI/SSCI papers</td>
<td>1,798</td>
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<td>Non-SCI/SSCI papers</td>
<td>126</td>
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<tr>
<td>Books</td>
<td>11</td>
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<tr>
<td>Doctoral theses</td>
<td>275</td>
</tr>
<tr>
<td>Patents</td>
<td>5</td>
</tr>
</tbody>
</table>

Knowledge transfer

606 contracts and agreements with companies and institutions, with funding of 14.7 million euros. 41 Spanish patent applications. 27 International patent applications. 13 exploitation licence contracts.

Lines of research

Structural biology, biotechnology, the molecular and cellular basis of cancer, developmental biology, plant biology, physiopathology, functional genomics and genetics, microbiology and virology, immunology, neurobiology.
Area 3

Recursos Naturales
Natural Resources

21 institutes

2,106 people

147.8 M€ expenditure

466 research projects funded, at a total cost of 74.6 million euros

Scientific output

<table>
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<td>SCI/SSCI papers</td>
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<td>Books</td>
<td>69</td>
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<td>Doctoral theses</td>
<td>111</td>
</tr>
<tr>
<td>Patents</td>
<td>6</td>
</tr>
</tbody>
</table>

Knowledge transfer

428 contracts and agreements with companies and institutions, with funding of 13.5 million euros. 9 Spanish patent applications. 3 International patent applications. 1 exploitation licence contract.

Lines of research

Biology of organisms and terrestrial systems, sciences of the earth and atmosphere, marine sciences and aquaculture, and global change.
## Ciencias Agrarias
### Agricultural Sciences

<table>
<thead>
<tr>
<th><strong>12</strong> institutes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1,555</strong> people</td>
</tr>
<tr>
<td><strong>89.9 M€</strong> expenditure</td>
</tr>
<tr>
<td><strong>348</strong> research projects funded, at a total cost of <strong>49.2</strong> million euros</td>
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</table>

### Scientific output

<table>
<thead>
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<th>Category</th>
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<tbody>
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<td>SCI/SSCI papers</td>
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<td>Doctoral theses</td>
<td>77</td>
</tr>
<tr>
<td>Patents</td>
<td>19</td>
</tr>
</tbody>
</table>

### Knowledge transfer

- **353** contracts and agreements with companies and institutions, with funding of **4.4** million euros.
- **7** Spanish patent applications.
- **5** International patent applications.
- **25** exploitation licence contracts.

### Lines of research

- Water in agriculture, soil quality and organic material, plant nutrition, photosynthesis, fruit growing and forestry, genetic enhancement, plant pathology and stock rearing.
Area 5

Ciencia y Tecnologías Físicas
Physical Science and Technology

26 institutes

1,485 people

100.9 M€ expenditure

330 research projects funded, at a total cost of 76.8 million euros

Scientific output

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
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</thead>
<tbody>
<tr>
<td>SCI/SSCI papers</td>
<td>1,879</td>
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<tr>
<td>Non-SCI/SSCI papers</td>
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<tr>
<td>Books</td>
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<td>Doctoral theses</td>
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</tr>
<tr>
<td>Patents</td>
<td>12</td>
</tr>
</tbody>
</table>

Knowledge transfer

248 contracts and agreements with companies and institutions, with funding of 17.9 million euros. 23 Spanish patent applications. 29 International patent applications. 1 exploitation licence contract.

Lines of research

Astrophysics, atomic and molecular physics, particle physics, nuclear physics, optics, mathematics, nano-science and nanotechnology, physical technologies, computational sciences, complex systems, integrated micro and nano systems.
Ciencia y Tecnología de Materiales  
*Materials Science and Technology*

**11** institutes  
**1,526** people  
**104.6** M€ expenditure  
**248** research projects funded, at a total cost of **45.3** million euros

### Scientific output

- SCI/SSCI papers: **1,602**  
- Non-SCI/SSCI papers: **132**  
- Books: **14**  
- Doctoral theses: **82**  
- Patents: **36**

### Knowledge transfer

- **725** contracts and agreements with companies and institutions, with funding of **12.1** million euros.  
- **39** Spanish patent applications.  
- **21** International patent applications.  
- **4**exploitation licence contracts.

### Lines of research

Functional and multifunctional materials; structural materials for sectors of high industrial interest; materials and engineering for construction; theory and engineering of materials: design, modelling and simulation; new methods of synthesis and processing; properties of materials on the nanometric scale.
Area 7

Ciencia y Tecnología de Alimentos
Food Science and Technology

7 institutes

728 people

58.1 M€ expenditure

191 research projects funded, at a total cost of 29 million euros

Scientific output

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCI/SSCI papers</td>
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<td>Doctoral theses</td>
<td>30</td>
</tr>
<tr>
<td>Patents</td>
<td>10</td>
</tr>
</tbody>
</table>

Knowledge transfer

273 contracts and agreements with companies and institutions, with funding of 3.9 million euros. 12 Spanish patent applications. 10 International patent applications. 4 exploitation licence contracts.

Lines of research

Food quality and safety, development of new food production and conservation techniques, development of new active packaging and products, biotechnology of edible plants and micro-organisms of nutritional interest, and production of functional ingredients and foods.
Ciencia y Tecnologías Químicas
Chemical Science and Technologies

11 institutes

1,430 people

86.6 M€ expenditure

316 research projects funded, at a total cost of 58.3 million euros

Scientific output

<table>
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<th>Category</th>
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</thead>
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<tr>
<td>Non-SCI/SSCI papers</td>
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<td>Books</td>
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<td>Doctoral theses</td>
<td>77</td>
</tr>
<tr>
<td>Patents</td>
<td>62</td>
</tr>
</tbody>
</table>

Knowledge transfer

383 contracts and agreements with companies and institutions, with funding of 11.9 million euros. 54 Spanish patent applications. 24 International patent applications. 3 exploitation licence contracts.

Lines of research

Chemical synthesis, biological chemistry and medical chemistry, environmental chemistry and technology, organo-metallic chemistry, catalysis, physical chemistry, chemistry of materials and nanotechnology.