

fight antibiotic resistance), and 3) human microbiome (i.e., the manipulation of evolving interactions among bacteria to restore unbalanced human microbial ecosystems).

List of publications

List of relevant projects

IFISC-CSIC

The Spanish National Research Council (CSIC) is Spain's largest public research institution and ranks third among Europe's largest research organisations. Attached to the Spanish Ministry of Science and Innovation, the CSIC plays a key role in scientific and technological policy in Spain and worldwide. According to its Statute (Article 4), it has 4 main missions:

- to foster multidisciplinary scientific and technological research,
- knowledge transfer to industry and society,
- education and training of scientific and technical staff,
- creation of Technology Based Companies (spin-offs).

The CSIC has more than 10 000 employees, including nearly 4 000 staff researchers. Currently it has 120 institutes spread across the country, of which 67 of them are fully-owned institutes and 53 are Joint Research Units in partnership with other Spanish universities or research institutions.

The CSIC supports research and training across a wide range of knowledge, from the most basic or fundamental aspects of science to the most complex technological developments; from human and social sciences to food science and technology, including biology, biomedicine, physics, chemistry and materials, natural resources and agricultural sciences. It carries out research in all fields of knowledge, distributed in three global areas: Life, Society and Materia.

The CSIC has a Vice-presidency of International Affairs dedicated to the planning and promotion of international relations, including the participation in international and European programmes, especially the Framework Programme of Research and Innovation of the EU. It also has a delegation in Brussels that holds the institutional representation of the CSIC before the institutions of the EU and other relevant organisations and forums, and fosters and potentiates relationships with the representatives of foreign research organisations similar to the CSIC.

The CSIC produces 20% of the national scientific output (over 10 000 publications in high impact international journals in 2017) and remains the first institution in Spain in the generation of patents, with around 200 patent applications in 2017. The Vice-presidency for Technology Transfer assists the CSIC's researchers with patent evaluation and application processes, commercialization of the CSIC's technology offer and with the creation of start-ups.

The CSIC has also a broad experience managing large and singular infrastructures. For instance, it provides services to the entire scientific community through the management of several Singular Scientific and Technological Infrastructures (ICTS) such as the "Calar Alto" Astronomical Observatory, the "Doñana" Biological Station, the European Synchrotron Radiation Facility, the "Hesperides" Ocean Research Vessel, the Integrated Micro and Nanoelectronics Clean Room, the "Juan Carlos I" Antarctic Base, the "Max Von Laue-Paul Langevin" Institute and the "Sarmiento de Gamboa" Ocean Research Vessel. In addition, the CSIC has a broad experience in conducting RI projects funded by national, European and international public and private entities.

The CSIC is a major player in the development of the European Research Area (ERA) and therefore a significant contributor to the European integration process. Within the 7th Framework Programme the CSIC is listed the 1st organisation in Spain and the 4th in Europe within the research organizations, with a total of 726 signed actions and a contribution of over 264 million euros (E-CORDA).