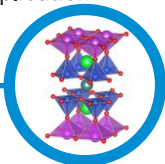


Graphic design: Daniela Gaggero

Mission and Organization

SPIN stands for **Su**Perconductors, oxides and other **IN**novative materials and devices. Its mission is the study of innovative materials and their application in the fields of electronics and energy.

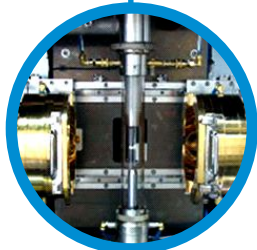


SPIN belongs to the **Department of Physical Sciences and Technologies of Matter** (www.dsftm.cnr.it) of the National Research Council of Italy (CNR).

Main equipment

SPIN instrumental endowment mostly covers the following areas:

- Thin film deposition
- Micro and nano-lithography
- Bulk material preparation
- Structural, morphological and chemical characterization
- Optical characterization techniques based on laser sources
- Magnetic, electrical and thermal characterization
- High performance numerical calculations
- Cryogenics
- Scanning probe microscopy
- Mechanical deformation

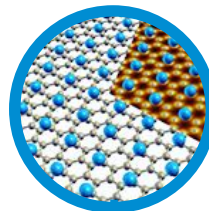


Research activities



Activity A

Novel superconducting and functional materials for energy and environment



Activity B

Superconducting and correlated low dimensional materials and devices for quantum electronics and spintronics

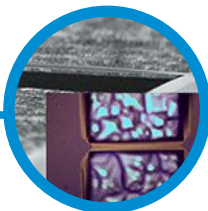
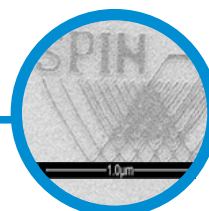


Activity C

Innovative materials with strong interplay of spin-orbital-charge and topological degrees of freedom

Activity D

Light-matter interaction and non-equilibrium dynamics in advanced materials and devices



Activity E

Advanced materials and techniques for organic electronics, biomedical and sensing applications

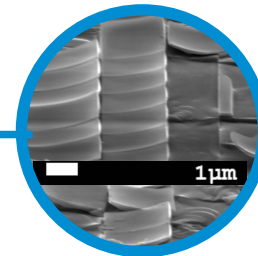


Activity F

Electronic and thermal transport from the nanoscale to the macroscale

Technology transfer

Exploiting scientific results, inventions and expertise for the benefit of the industrial production system is one of SPIN strategic goals. SPIN scientists are routinely engaged in joint projects with industrial partners, yet always complying with protection of intellectual property rights. SPIN owns a set of **registered patents** of major industrial relevance, mostly in the fields of Biomedicine and Applied Superconductivity.



SPIN is actively engaged in several **public-private partnerships** targeted at fostering technology transfer to Industry: the most significant example is the recent START4.0 Competence Centre, aimed at applying Industry 4.0 enabling technologies for cyber safety and cyber security to the protection of strategic infrastructures of the Genova area.

Outreach

Since the time of its foundation, SPIN has contributed to the organization of dozens of national and international scientific conferences and workshops on different topics. The SPIN scientific community is specifically engaged, in a steady activity of **education and dissemination** through the organization of schools, conferences and events dedicated to a broader audience on the science and application of innovative materials.

