



# IPNA AT A GLANCE

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# HISTORY AND MISSION



The Institute of Natural Products and Agrobiology (IPNA in Spanish) acquired its current configuration in 1990, when the Governing Council of the CSIC merged two research centres: the Institute of Organic Natural Products (IPNO) and the Institute of Natural Resources and Agrobiology (IRNA); the first was active in the area of Chemistry and Chemical Technologies and the second in Agricultural Sciences. Since then, its scientific activity has steadily increased both qualitatively and quantitatively. This applies to the area of Chemistry, the centre's first assignment, and the specialities of Agricultural Science, Volcanology and more recently Ecology and Evolution

on Islands.

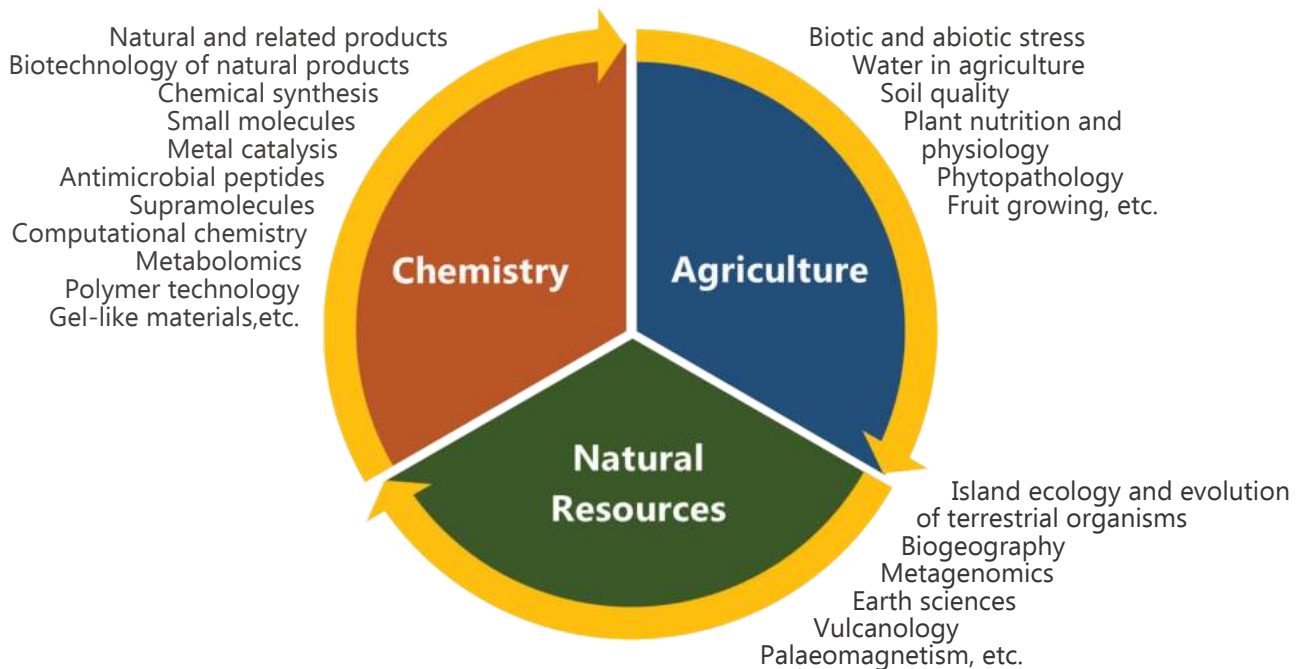
This thematic richness is one of the main assets of the Institute, due to its potential for synergies derived from interaction between these research lines.

The IPNA has its headquarters in the Anchieta Campus of the University of La Laguna (Tenerife), with which it has established agreements for the exchange of technological support services, training of researchers, and university teaching. In addition, IPNA-CSIC is present on the island of La Palma through the "Juan-José Bravo Agrobiology Laboratory", whose aim is to support the primary sector as well as studying aspects related to the Conservation of Biodiversity on that island.

**Our mission is to foster the creation and dissemination of scientific knowledge and the development of technology. This contributes to the advancement of knowledge and economic, social and cultural development through research, training and collaboration with public and private entities.**

# RESEARCH

The ultimate aim of the research carried out at IPNA-CSIC is to aid in pushing back the frontiers of science. IPNA's activity ranges from basic research to technological development. Its specific objectives are varied, bearing in mind that it is multidisciplinary centre with three main scientific-technical areas.



# IPNA IN NUMBERS



<sup>1</sup>24 Permanent Staff, 7 Post-Docs

In 2014-2018<sup>2</sup>:

280 Publications

72% Q1 - 46% D1

1,747 citations

h=17

1 plant varieties

12 patent families

4 licensed technologies

26 theses

2014  
54

2015  
49

2016  
47

2018  
71

2017  
59

<sup>2</sup>Scopus

# TRAINING

## Fostering your research career



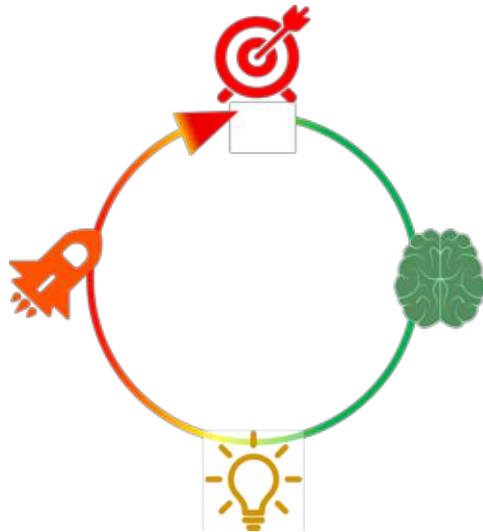
One of IPNA's core missions is to offer opportunities for personal and professional growth to exceptional students in the academic world. Several options are in place to promote science and foster the research careers of talented young students. Those with the potential for significant achievements are offered the opportunity to be involved in research life. They will also have their first experience in a research project, at the very frontier of science in biodiversity, chemistry and biotechnology.

**Student Internship Programme:** Undergraduate students from universities worldwide are invited to carry out an internship at IPNA-CSIC to broaden their education and research training, either to accomplish their final year project or participate in a research stay. In particular, thanks to the collaboration agreement with the ULL, each year the IPNA-CSIC welcomes university students from any faculty.

**JAE Programme:** This scheme covers an extensive period in the researchers' scientific careers, from the final years of university education –through the JAE-Intro sub-programme– through to high level specialisation at the pre- or post-doctoral level by means of the JAE-Pre and Doc sub-programmes, respectively.

There are also other training options through several regional or national programmes.

## Knowledge Transfer



IPNA-CSIC is proactive in disseminating the benefits of its research results. Our institute seeks to facilitate that the newly generated discoveries made in our laboratories are developed into new methods or technologies at the service of the scientific, commercial or industrial communities, as well as society at large. The institute has unique infrastructures and highly qualified personnel to support the industry in the development of technological projects, offering high added value services.

IPNA-CSIC offers various collaboration paths to provide scientific and technological support to any business that can benefit from the capabilities and resources of the centre. Thus, the Institute:

- Provides technical services (analysis, tests, validation, etc.).
- Conducts research to solve specific problems or develop new technologies, products or services.

IPNA-CSIC is also interested in joint projects, particularly involving technology development in collaboration with external customers and partners. In this case, the Institute can collaborate as external partner to participate in seeking shared funding and developing proposals focused on basic research or technological development.

**One of IPNA's missions is to offer scientific resources, technological advances and highly qualified personnel to the industrial sector.**

# Knowledge Transfer Programme

The main objective of the IPNA-CSIC Knowledge Transfer Plan is to make the scientific capabilities and technological achievements of the centre available to all socio-economic sectors, particularly at the regional level (private enterprise, universities, public administration, etc.). This is to ensure that the research is transformed into social and economic wellbeing for as wide a section of the population as possible.



**GESTBIOISLAS:** Conservation of threatened species, in a context of accelerating global and local environmental change.

**TRANSALUDAGRO:** Medical chemistry and sustainable agriculture with natural products.



**INVASISLAS:** Management of invasive species on Tenerife.

**CIGUATOX:** Vaccine against ciguatera.



**IMMUNOWINE:** Automated tests for the analysis of microorganisms in wine production.





# SERVICES

## NUCLEAR MAGNETIC RESONANCE

Structural elucidation of compounds with magnetically active nuclei.  
Identification and quantification of organic compounds, organometallic, etc.  
Receptor ligand interaction studies  
Structural and stereochemical analysis  
Obtaining kinetic parameters of chemical reactions  
Study of physical parameters of molecules.

## SPECTROSCOPY

Structural elucidation of organic and inorganic compounds.  
Characterization of biomolecules  
Interaction between macromolecules  
Enzyme-ligand interaction, etc.

## MASS SPECTROMETRY

Identification of metabolites  
Chemical synthesis  
Peptide/protein applications requiring full spectral sensitivity  
Identification of natural products

## ELEMENTAL ANALYSIS

Total percentage content of Carbon, Hydrogen, Nitrogen and Sulphur, present in a wide range of organic and inorganic samples, both solid and liquid.

One of the core objectives of IPNA is to provide access to insightful resources, such as specialised facilities and equipment, together with highly qualified technical assistance. This contributes to the development of projects of interest to the industrial sector and the scientific community.

## FOOD ANALYSIS

Analysis of essential nutrients (potassium, calcium, magnesium, sodium, etc.) in a wide range of samples such as vegetables, potatoes, fruit, fish, meat, cereals, etc.  
Identification of heavy metals and non-essential elements such as mercury, lead, cadmium, arsenic, etc.

## BIOLOGICAL ACTIVITY

Analysis of bioactivity in chemical compounds, natural products, extracts and biotechnological compounds.  
Activities: antimicrobial (screening and MIC), antioxidant, anti-biofilm formation and haemolytic.

## SOIL FERTILITY AND PLANT NUTRITION SERVICE

Quality of nutritional content of leaves, roots, fruit, stems, also of ornamental plants.  
Chemical and nutritional analysis of biofertilizers: biols, compost tea, nutritive solutions, slurry.  
Environmental contamination of agricultural soils.



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# CONTACT

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