Research field

- Line 1: BASIC AND APLIED PALINOLOGY

Study of pollen and fungal spores present species. Taxonomy.
Aerobiology. Control of atmospheric pollen and fungal spores.
Melisopalinology. Analysis of honey pollen.
Paleobotany. History of vegetation.

- Line 2: PLANT BIOLOGY

Ecology of plants. Quantitative study of vegetation dynamics.
Forest ecology. Bush. Composition, structure should and regeneration after the fire.
Study of seed germination and viabilidade. Characterization of soil seed bank.
Establishemento study and initial growth of forest plants.
Phenology of trees.
Histology and plant anatomy.

- Line 3: FUNGAL BIODIVERSITY

Fungal biodiversity.
Mycology in indoor and outdoor.
Mycology and plant pathology.
Biological control of plant diseases

- Line 4: DENDROECOLOGY AND XYLOGENESIS
  Analysis of growth rings. Climate-growth relationships and forest dynamics.
  Dendrochronological and historical dating dendrochronology.
  Dynamic cambial and wood formation

- Line 5: Phycolgy, ecology and biodiversity phycologist freshwater algae (phytobenthos and macrobenthos) and marine (macrobenthos).
  Taxonomy, plant and algal biogeography freshwater and marine benthos.
  Indicators of ecological status of water bodies. Algae as indicators of global change.
  Use sediment ponds to determine the history of changes in aquatic ecosystems.

- Line 6: Bryology
  Ecology and taxonomy of bryophytes.
  Bryophyte flora and vegetation in the Mediterranea and Atlantic, especially in the NO and SW of the Iberian Peninsula.
  Floristic and corology of Bryophytes (P. Iberian), including its use as bioindicators.
  Ex-situ conservation of endangered species by performing in vitro cultures. Preparation of red lists.

- Line 7: BASIC AND APPLIED LICHENOLOGY
  Biodiversity and conservation of lichens.
  Taxonomy.
  Study of biodeterioration caused by lichens.
  Application of lichens as bioindicators of environmental pollution

Technology services

- Line 1
  Morpho biometric studies of pollen and spores applied to taxonomy. Determination of the atmospheric concentration of pollen and fungal spores to prevent allergies. Pollen analysis of honey for its geographical and botanical characterization. History of past vegetation through the identification of fossil pollen in soils and archaeological sites. Environmental information service of biological air quality.

- Line 2

- Line 3

- Line 4

- Line 5
  Qualitative and quantitative analysis of freshwater phytoplankton. Effect of pollution on vegetation ecology and benthic marine algae and freshwater. Monitoring of ecological status in rivers, based on algae and redevelopment in the field of Water Framework Directive in Europe and similar approaches. Diatom indices of the quality of inland waters. Use of phytoplankton at follow-up of the effects of eutrophication in reservoirs.

- Line 6
Floristic studies. Assessing the conservation status of natural forests. Assessment of biodeterioration on stone construction. Use of lichens as indicators of air pollution.

**Key words**

palynology; aerobiology; melisopalinology; paleobotany; conservation; biodiversity; forest habitats; plant histology; plant anatomy; phenology; germination; mushrooms; mycology; plant pathology; phytopathology; fungal biodiversity; biological control; dendrochronology; dendroecology; quantitative anatomy of wood; growth rings; xylogenesis; phycology; biodiversity phycologist; limnology; marine environment, continental environment, biological index; bryology; taxonomy; flora, ecology; conservation; protected species; bioindicators; lichenology; conservation; biodeterioration;

**Researchers**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
<tr>
<td>Aira Rodríguez, M.J.</td>
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<td>Reinoso Franco, J.</td>
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**External collaborators**

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>Teresa Irene Rojas Flores</td>
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<td>María Fernández González</td>
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<tr>
<td>María del Carmen Seijo Coello</td>
<td>Universidade de Vigo</td>
</tr>
</tbody>
</table>

**RTD PROJECTS (period: 2009 - 2013)**

**Title:**
STReESS - Studying Tree Responses to extreme Events: a Synthesis

**Tipology:** (PI) Programas Internacionales

**Duration:** 10/01/2012 - 30/11/2015

**Main investigator:** García Gonzalez, Ignacio

---

**Title:**
Xilogénesis de Quercus robur y Quercus pyrenaica a lo largo de un gradiente de disponibilidad hídrica en el Noroeste de la Península Ibérica

**Tipology:** Plan Nacional

**Duration:** 01/01/2011 - 31/12/2013

**Main investigator:** García Gonzalez, Ignacio
Title: Robles y cambio climático en Galicia: patrones de variación espacio-temporal de la fenología, xilogénésis, anatomía y germinación (ROCLIGAL).

Tipology: Proxectos Xunta

Duration: 08/08/2010 - 30/09/2013

Main investigator: García Gonzalez, Ignacio

Technological customers and partners

- APPLUS NORCONTROL, S.L.U.
- Consellería de Medio Ambiente e Desenvolvemento Sostible
- Consellería de Medio Rural. Parque Natural Baixa Limia-Serra do Xurés
- Consellería de Sanidade
- Novotec Consultores, S.A.

SCIENTIFIC PRODUCTION ( period: 2007 - 2011 )

Articles in scientific journals

Article: The genera Coccocarpia (Coccocarpiaceae, Ascomycota), Degelia and Erioderma )Pannariaceae, Ascomycota), in the Iberian Peninsula
Journal: NOVA HEDWIGIA, ISSN: 0029-5035
2007

Article: Aeromycological study in the Cathedral of Santiago de Compostela
Journal: INTERNATIONAL BIODETERIORATION & BIODEGRADATION, ISSN: 0964-8305
2007

Article: Use of phenological and pollen-production data for interpreting atmospheric birch pollen curves
Journal: ANNALS OF AGRICULTURAL AND ENVIRONMENTAL MEDICINE, ISSN: 1232-1966
2007

Article: Use of Quercus ilex subsp. ballota phenological and pollen-production data for interpreting Qercus pollen curves
Journal: AEROBIOLOGIA, ISSN: 0393-5965
2007

Article: Freshwater algae in Galician Central Macizo rivers (NW Spain) with new records for the Iberian Peninsula
Journal: ARCHIV FUR HYDROBIOLOGIE, ISSN: 0003-9136
2007

Article: The genus Fuscopannaria P.M. Jorg. (Pannariaceae, lichenized Ascomycota) in the Iberian Peninsula
Journal: CANDOLLEA, ISSN: 0373-2967
2008
Article: 47 annual record of allergenic fungi spores: Predictive models from the NW Iberian Peninsula

Article: Regional phenological models for forecasting the start and peak of the Quercus pollen season in Spain
Journal: AGRICULTURAL AND FOREST METEOROLOGY, ISSN: 0168-1923 2008

Article: Poaceae pollen in Galicia (NW Spain): Characterisation and recent trends in atmospheric pollen season
Journal: INTERNATIONAL JOURNAL OF BIOMETEOROLOGY, ISSN: 0020-7128 2009

Article: Characterization of Coprinus spores in the NW of the Iberian Peninsula
Journal: CRYPTOGRAMIE MYCOLOGIE, ISSN: 0181-1584 2009

Article: Benford’s law applied to aerobiological data and its potential as a quality control tool
Journal: AEROBIOLOGIA, ISSN: 0393-5965 2009

Article: Incidence of fungals in a vineyard of the denomination of origin Ribeiro (Ourense-NW Spain)
Journal: ANNALS OF AGRICULTURAL AND ENVIRONMENTAL MEDICINE, ISSN: 1232-1966 2009

Article: The use of aerobiological methods for forecasting Botrytis spore concentrations in a vineyard
Journal: GRANA, ISSN: 0017-3134 2010

Article: Evaluation at atmospheric Poaceae pollen concentration using a neural network applied to a coastal Atlantic climate region
Journal: NEURAL NETWORKS, ISSN: 0893-6080 2010

Article: Chloroplast microsatellites reveal that metallicolous populations of the Mediterranean shrub Cistus ladanifer L. have multiple origins
Journal: PLANT AND SOIL, ISSN: 0032-079X 2010

Article: Prediction of grape production by grapevine cultivar Godello in North-West Spain
Journal: JOURNAL OF AGRICULTURAL SCIENCE, ISSN: 0021-8596
Article:
Estimation of yield Loureira variety with an aerobiological and phenological model
Journal: GRANA, ISSN: 0017-3134
2011

Article:
Recent atmospheric pollen season trends for tree species in Galicia (NW Spain)
Journal: CLIMATE RESEARCH, ISSN: 0936-577X
2011

Article:
Airborne fungal succession in a rice field of Cuba
Journal: EUROPEAN JOURNAL OF PLANT PATHOLOGY, ISSN: 0929-1873
2011

Article:
Aerobiological dynamics of potentially pathogenic fungi in a rice agroecosystem in la Habana, Cuba
Journal: AEROBIOLOGIA, ISSN: 0393-5965
2011

Article:
Influence of pollen level on hospitalizations for asthma
Journal: Archives of Environmental & Occupational Health, ISSN: 1933-8244
2011

Article:
Effects of thinning intensity on radial growth patterns and temperature sensitivity in Pinus canariensis afforestations on Tenerife Island, Spain
Journal: ANNALS OF FOREST SCIENCE, ISSN: 1286-4560
2011

Article:
Contrasting effects of water availability on Pinus Pinaster radial growth near the transition between the Atlantic and Mediterranean biogeographical regions in NW Spain
Journal: EUROPEAN JOURNAL OF FOREST RESEARCH, ISSN: 1612-4669
2011

Article:
Non-stationary influence of El Niño-Southern Oscillation and winter temperature on oak latewood growth in NW Iberian Peninsula
Journal: INTERNATIONAL JOURNAL OF BIOMETEOROLOGY, ISSN: 0020-7128
2011

Article:
Climatic control of intra-annual wood density fluctuations of Pinus Pinaster in NW in Spain
Journal: TREES-STRUCTURE AND FUNCTION, ISSN: 0931-1890
2011

Article:
Contrasting effects of wildfire and climate on radial growth of Pinus canariensis on winward and leeward slopes on Tenerife, Canary Islands
Journal: TREES-STRUCTURE AND FUNCTION, ISSN: 0931-1890
2011

Book:
Title: Estudio aerobiológico de Galicia. Calidade do aire
(978-84-453-44) Publicación: 2007
Editorial: Xunta de Galicia

Title: Atlas Florae Europaeae. Distribution of vascular plants in Europe
(9789519108) Publicación: 2007
Editorial: Vammalan jirjapaino OY

Title: Estudio aerobiológico. Galicia 2007
Editorial: Xunta de Galicia

Chapter:
Title: Strategies of remote sensing monitoring changes in NATURA 2000 sites: a practical assessment in coastal mountains of NW Iberian Peninsula.

Book: Remote Sensing for Environmental Monitoring, GIS Applications and Geology VII.
(978-0-8194-6907-6) Publicación: 2007
Editorial: SPIE

Title: Torbera Minerotróficas Alcalinas

Book: Bases Ecológicas Preliminares para la conservación de los tipos de hábitat de interés comunitario en España
(978-84-491-0911-9) Publicación: 2009
Editorial: Dirección General de Medio Natural y Política Fore

Title: 7210 Áreas pantanosas calcáreas con Cladium mariscus y especies de Caricion davallianae (*)

Book: Bases ecológicas preliminares para la conservación de los tipos de hábitat de interés comunitario en España
(978-84-491-0911-9) Publicación: 2009
Editorial: Secretaría General Técnica.Centro de Publicaciones

Title: Formaciones pioneras alpinas del Caricion maritimae

Book: Bases ecológicas preliminares para la conservación de los tipos de hábitat de interés comunitario en España
Diversidade liquénica dos faiais

Os faiais de Galicia. Ecoloxía e valor ambiental

Aneis de crecemento e dendrocronoloxía dos faiais

Os faiais de Galicia. Ecoloxía e valor ambiental

Doctoral theses:

La cochinilla algodonosa de los cítricos, Planococcus citri (Risso), como vector del virus 3 de enrollado de la vid (GLRaV-3).

Date of dissertation: 18/01/2008
Director: Antonio Segura Iglesias
Author: Miguel Cid Fernández

Aplicación de la Fenología y Aerobiología al cultivo de la vid (vitis vinifera L.)

Date of dissertation: 14/05/2009
Director: María Jesús Aira Rodríguez, Victoria Jato Rodríguez, Francisco Javier Rodríguez Rajo
Author: Yolanda Abelda Prado

Diversidad fúngica en ambientes de áreas urbanas de Ciudad de La Habana y sus potencialidades en el deterioro

Date of dissertation: 15/12/2010
Director: María Jesús Aira Rodríguez
Author: Teresa Irene Rojas Flores

Efecto del fuego sobre la germinación y el banco de semillas edáfico del Ericáceas de Galicia.
Date of dissertation: 13/05/2011  
**Director:** Elvira Antonia Díaz Vizcaíno  
**Author:** Araceli Iglesias Rodríguez

---

**Title:**  
Estudio fenológico y aerobiológico en un viñedo de la comarca del Ribeiro  

Date of dissertation: 16/07/2012  
**Director:** Francisco Javier Rodríguez Rajo, María Jesús Aira Rodríguez  
**Author:** María Fernández González