

BIOINCA

Biodiversity and sustainable agriculture in the tropical Andes

Our vision

Scientific research for the sustainable use and conservation of natural resources in the tropical Andes: The International Mixed Laboratory BIO_INCA, sponsored by the French National Institute for Sustainable Development (IRD), *Universidad de los Andes* (Uniandes) and *Pontificia Universidad Católica del Ecuador* (PUCE), develops knowledge, technologies, and methods in support of science-based solutions for socio-economically and ecologically sound uses of natural resources in the tropical Andes.



Our team

Our team has roots in the history of scientific cooperation between IRD and both Colombia (Uniandes) and Ecuador (PUCE) in the fields of biology, ecology and agriculture, which started in the late 1990s and matured during the 2000s. Our core group is made up of some 50 scientists from Colombia, Ecuador and France with solid experience and diverse expertise – from genomes to socio-ecosystems – in the study of natural and cultivated plant systems in the tropical Andes.

Our objectives

The main objective of BIO_INCA is to promote the emergence of an operational and interdisciplinary research platform between Colombia and Ecuador that will provide nature-based solutions for cultivated and natural plant systems of the Andean region (highlands and foothills). The research engendered by this structure aims to link basic and applied sciences, with the objective to propose concrete solutions to the adaptive management of natural and cultivated plant ecosystems. Our ultimate goal is to foster the sustainable use of natural resources, the preservation of biodiversity, food security and sovereignty in the region.



A singular view

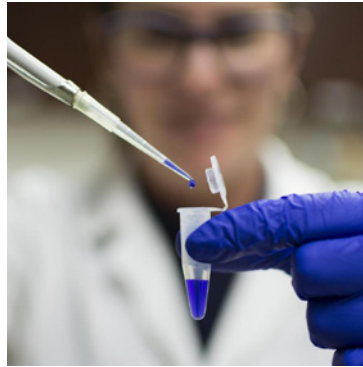
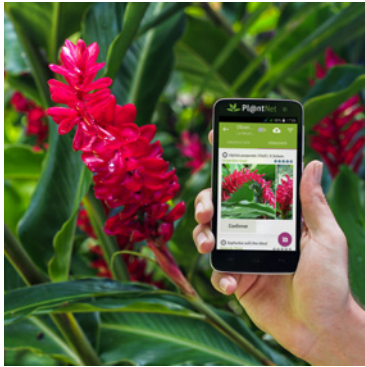
The most important goal of the consortium is the setup of a pioneering partnership in research and development on biodiversity and agriculture. BIO_INCA will support Colombian and Ecuadorian partners to strengthen their labs and develop their interactions in support of South – South scientific collaborations in South America. The scientific knowledge developed by BIO_INCA aims to support policymakers involved in natural and crop system management in the Andean region.



Our scientific agenda

Our research is organized into four main scientific objectives, embedded in a social context:

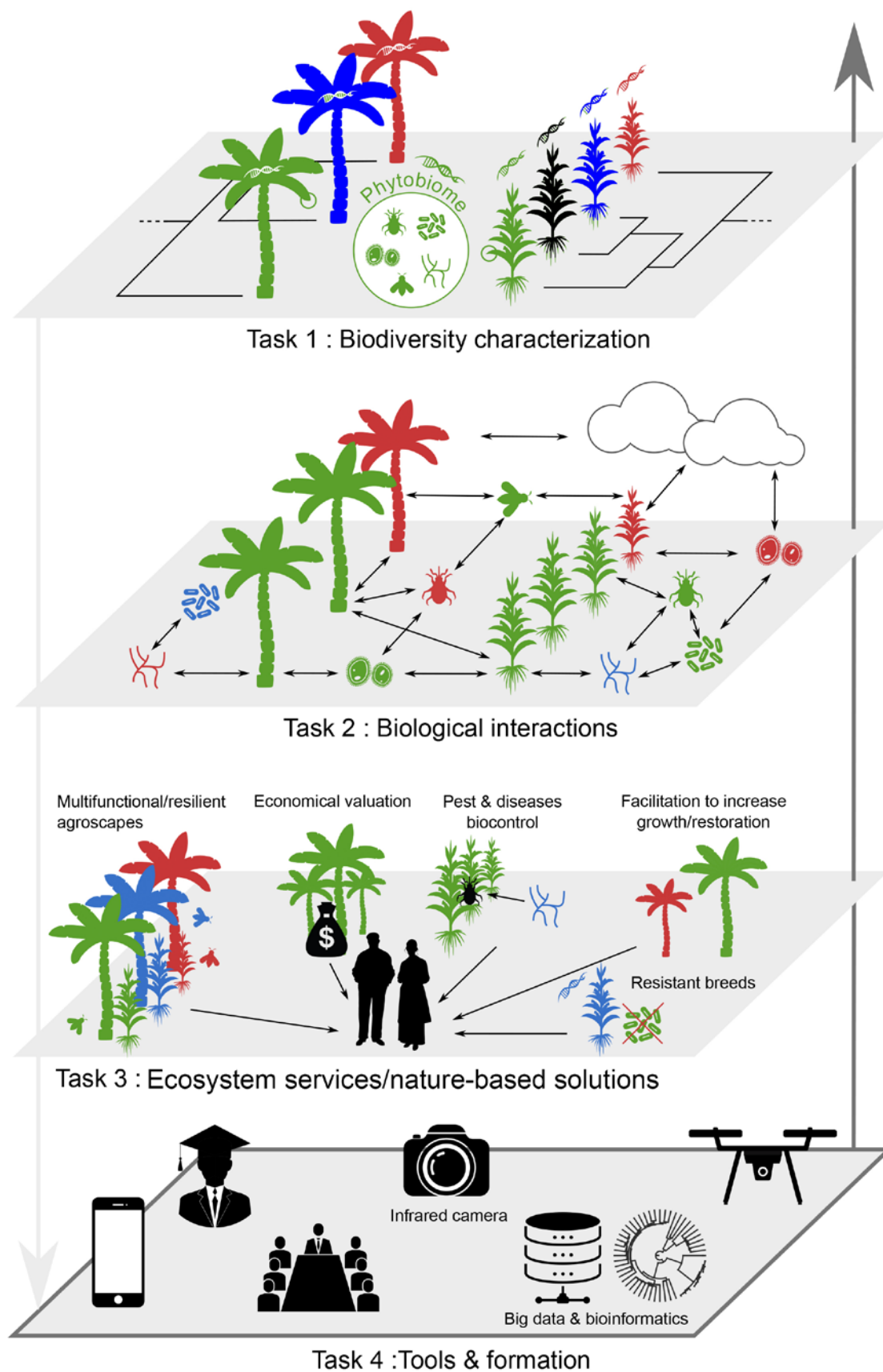
- 1▷ characterization of cultivated and wild biodiversity and genetic exchanges between both systems,
- 2▷ study of biological interactions among plants, microorganisms, arthropods, and humans,
- 3▷ study of ecosystem services and search for nature-based solutions, and
- 4▷ development of innovative ecological and bioinformatics tools and training programs.



Training and communication

BIO_INCA puts great emphasis on educating graduate students, as well as post-doctoral fellows through the integration of laboratory, field, bioinformatics and participatory-based research. It will also bring more opportunities for training, extension, and communication of technical information to the public and industry. A main emphasis is on the transfer of scientific knowledge to local communities, key stakeholders and governmental institutions through outreach activities.





Contacts

Colombia: Dr. Silvia Restrepo, srestrep@uniandes.edu.co

Ecuador: Dr. Rommel Montúfar, rjmontufar@puce.edu.ec

France: Dr. Olivier Dangles, olivier.dangles@ird.fr