

**Year of CfP:** 2009

**Project No** 0900-001

**Project title:** ARCAD (Agropolis Resource Center for Crop Conservation, Adaptation and Diversity)

**Units managing the project:** AGAP (Genetic improvement and Plant adaptation) (CIRAD, INRA, Montpellier SupAgro), DIADE (Diversity, Adaptation and development of Plants) (IRD, UMII), LGDP (Plant genome and development laboratory) (CNRS, UPVD)

**Project leader:** Jean-Louis Pham [pham(a)agropolis.fr]

**Countries involved in the project:** Burkina Faso, Cote d'Ivoire, Guinea, Kenya, Madagascar, Mali, Niger, Nigeria, Morocco, Senegal, Uganda; Brazil, Chile, Ecuador, Peru, Trinidad, USA; Denmark, European Cooperative Programme for Plant Genetic Resources; FAO; CGIAR (Generation Challenge Programme, Bioversity International, ICRISAT)

**Research units from the Foundation's scientific network involved:** BGPI, GALF, GREEN, RPB

**Sub-thematic axes:** IPB-1 Integrative Plant Biology 1: *Genetics and genomics, plant breeding, ecophysiology*; STDI-1 Socio-Technical Dynamics of Innovation 1: *Agri-environmental innovations, agri-ecosystems, resources management*; STDI-3 Socio-Technical Dynamics of Innovation 3: *Innovation processes, social management of innovations*

**Objectives:** ARCAD is aimed at setting up a new open multi-function (conservation, research and training) platform devoted to the assessment and better use of plant agrobiodiversity in Mediterranean and tropical regions. It will focus on the relationship between crop diversity and the processes of domestication and adaptation to the agricultural environment. The project involves:

- Advanced research on the history and process of domestication and crop adaptation as well as on key parameters for adaptation through studies of evolutionary genomics, population genetics and multi-disciplinary studies involving biology and social sciences;
- Better use of existing information on plant genomes and biological resources (e.g., sequencing and germplasm databases, national and international germplasm collections and associated databases, *in situ* agrobiodiversity inventories) to enhance the use, conservation and sustainable management of cultivated plants diversity in tropical and Mediterranean agriculture;
- Development of international visibility and attractiveness of the Montpellier scientific community in the field of plant agrobiodiversity and preservation;

This initiative is expected to:

- Improve scientific knowledge and encourage the creation of new tools and methods to study the diversity of cultivated plant genetic resources, to determine the adaptive response of plants to their environment, to understand the role of environmental and human factors in agrobiodiversity, and *in* and *ex-situ* conservation of plant biological resources;
- Develop training in the research fields including various tools and methods of the ARCAD project.
- Contribute in enhancing dialogue between the stakeholders involved in the preservation of agrobiodiversity; and serve as leverage in developing new partnerships and initiating new activities, and linkages between agrobiodiversity preservation and economic and social dynamics.

**Total Agropolis Fondation funding:** €3 000 000

**Funding category(ies):** Agropolis Fondation Grants for Scientific Platform; Post-doc Fellowships; Doctoral Fellowships; Support to prepare applications for national or international Calls for proposals; Support for publication and dissemination of results. Support for hosting pre-doctoral students

**Project duration:** 01 October 2009 – 30 September 2013

**Keywords:** agrobiodiversity – crop genetic resources – plant biological resources – conservation Mediterranean regions – tropical regions – domestication – adaptation – evolution – diversity – gene – genome – population – local knowledge – culture – farmers' practices – climate change – agroecosystems