

>WHAT'S ON IN MONTPELLIER

Arcad, an agrobiodiversity resource centre at the heart of the Montpellier scientific community



Interview with Jean-Louis Pham, project leader.

■ The Agropolis International Letter (AI): What was the genesis of the ARCAD project? What are its missions?

Jean-Louis Pham (JLP): The ARCAD project (*Agropolis Resource Centre for Crop Conservation, Adaptation and Diversity*) is one of the Agropolis Foundation's two flagship projects*. Since its inception in 2009, it has mainly focused its research efforts in the analysis of the evolutionary history of cultivated Mediterranean and tropical plants and their domestication and adaptation in order to better maintain and use its genetic diversity.

As a truly multidisciplinary project (involving teams in the areas of genomics, population genetics, bio-informatics and anthropology),

ARCAD inherits a long tradition of research into plant genetic resources in Montpellier.

■ AI: How is the project structured?

JLP: The project consists of 8 sub-projects**:

□ Three core research subprojects focus on the comparative phylogenomics of some 10 cultivated species*** and their wild ancestors, the adaptation of plants to climate change, and the diversity and evolutionary dynamic of cereals in Africa.

□ Four supporting subprojects focus on the bioinformatic processing of data generated by research projects, association genetics, cryopreservation of genetic resources, as well as the establishment and management of a DNA bank.

□ The purpose of the latter sub-project is to organise doctoral and post-doctoral training modules.

This unique training setup, which is based on ARCAD's process for methodology development—in particular through the establishment of thematic schools****—has a two-fold objective: on the one hand, to transfer knowledge and methodologies for the benefit of developing countries and, on the other hand, to strengthen project momentum by fostering interaction among ARCAD teams, and between these teams and the scientific community.

■ AI: What point has the project reached today?

JLP: The first year was mainly devoted to setting up partnerships, processing plant samples (collection, preparation, sequencing) and developing computer tools to facilitate data analysis. In 2011, the first research results should emerge in the form of scientific publications. We are also committed to implementing strict procedures for access to and exchange of biological material, in conformity with national and international regulations.

■ AI: What are the longer-term objectives?

JLP: The thematic scope of agrobiodiversity research is immense. It's impossible to do everything, but there are issues where we need to be more present and develop our expertise, such as those relating to international germplasm policy.

Ultimately, a multi-institution space dedicated to germplasm conservation, research and training, and a centre for genotyping and high-throughput sequencing is to be established with support from the Languedoc-Roussillon region and the four French organisations involved in the project.

We hope, too, that the ARCAD project, as a truly open platform, will give French efforts in the field of agrobiodiversity greater international prominence. We may achieve as good visibility as the German and Dutch centres in Europe. This international opening should not distract us from our effort to enhance communication with society, as it is important to ensure that our objectives and activities are better known and understood.

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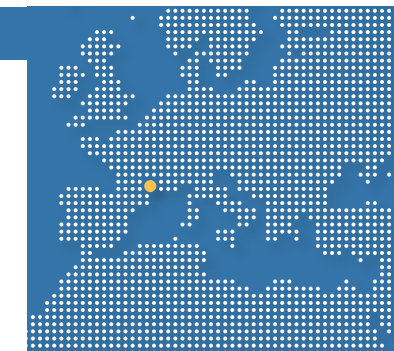
www.arcad-project.org

* The Agropolis Foundation's other flagship project is Pl@ntNet, a collaborative network and software platform for the compilation and sharing of botanical tools and knowledge. To learn more: www.plantnet-project.org

** View research programme details: www.arcad-project.org/research_projects

*** 12 crops are being studied, including grapes, millet, sorghum, rice and fonio

**** For the contents of the first two thematic schools, 'Agrobiodiversité: des hommes et des plantes. Outils et Méthodes d'analyse', see: www.arcad-project.org/training/training_course_on_agrobiodiversity



ARCAD in figures

4 main organisations are involved: CIRAD, INRA, Montpellier SupAgro, IRD

60 participating researchers

3 millions euros invested in the scientific project over 4 years by Agropolis Fondation

7 million euros granted by the Languedoc-Roussillon Region and research organisations for the construction of dedicated infrastructure

14 foreign and international partner organisations



>IN BRIEF World Biodiversity Under Discussion in Montpellier

On 17, 18 and 19 January 2011 the City of Montpellier, an Agropolis International member community held the first meeting on the implementation of the 2011-2020 world biodiversity plan under the Convention on Biological Diversity (CBD). This event, which brought together some forty European and international cities and organisations, confirms the regional scientific community's recognition of this dossier at the highest level of excellence: 13 multidisciplinary research units, 300 teachers and researchers, 100 PhD students listed in the thematic dossier published by Agropolis International on the theme of 'Biodiversity: Science for humans and nature'.

Consult the Thematic dossier:
www.agropolis.org
(Search "Dossier thématique")



Montpellier Languedoc-Roussillon
World centre for agricultural,
food and environmental sciences

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>IN BRIEF

■ A call for session proposals has been issued, with a 31 March deadline, for the 13th International Congress of Ethnobiology in 2012 (CISE).

Agropolis International is to support the organisation of the upcoming congress of the International Society of Ethnobiology, whose theme will be: "Cultural diversity and biological diversity for sustainable development: Exploring the past to build up the future". The purpose of the event is not just to present the Society's research results to the



scientific community concerned with ethnobiology, which is dedicated to the study of the interactions between human societies and their environment, but also to provide an opportunity for intensive discussion of major environmental problems among researchers, representatives of aboriginal communities, civil society and the general public.

The organising team for this event is both interdisciplinary (geneticists, anthropologists, ecologists and geographers) and interinstitutional (CIRAD, CNRS, IRD and Université Montpellier 2). Some 500

researchers are expected to attend, 21-25 May 2012 in Montpellier.

For further information:
<http://congress-ise2012.agropolis.fr>

■ The scientists get behind the International Year of Forests

Throughout the year, both in France and abroad, the Montpellier scientific community participates in events, organises international workshops, and hosts exhibits.

The community will also be meeting the public to raise people's awareness of the tropical forests

and the major role they play in our day-to-day life.

For further information:
www.agropolis.fr/actualites/2011-annee-internationale-forets.php



>COOPERATION

The Agropolis International scientific community is supporting the reform of the National Higher Agronomy School (ENSA) in Algiers, Algeria



■ The reform of ENSA is aimed at achieving international excellence in research and training. This involves adapting the school's

development to new strategic directions and building additional international, national and local partnerships.

An ENSA delegation was hosted in Montpellier in September 2010, meeting with scientific community experts in disciplines related to water resources, plant science and agri-food technologies.

A framework ENSA/Agropolis International agreement involving the relevant Agropolis International

member establishments (Agro-ParisTech, Cemagref, CIRAD, IAM.M, ICRA, IRD, Montpellier SupAgro, University Montpellier 2) is in the process of being signed. It has the following components: restoration and construction of tropical greenhouses, training engineering, food research engineering and creation of an agropole project.

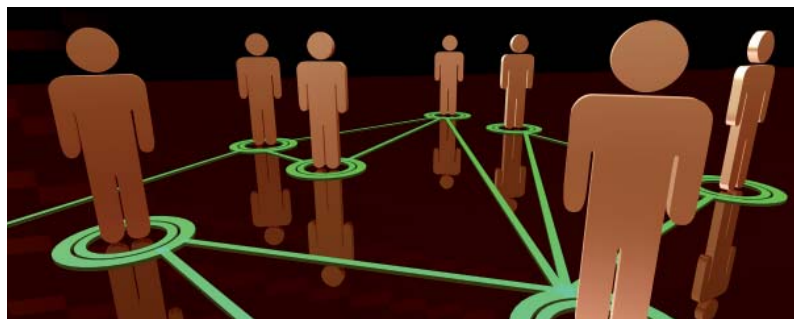
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>CGIAR
■ First spin-offs of Agropolis International's hosting of the Consortium, the Consultative Group on International Agricultural Research



Agropolis International will host:
□ the next meeting of the Fund Council, CGIAR's financial oversight body, on 5 and 6 April 2011. This will be followed, on 7 April, by the meeting of the Funders Forum, which represents all of the Group's funding bodies.
□ the next board meeting of CGIAR's Consortium of Centres, to be held 5 and 6 May 2011.

For further information:
www.agropolis.org [Search "CGIAR"]



Agropolis International is participating, together with the regional agricultural cooperation federation (FRCA-LR), in the the RED-ITAA project*

■ That project, which is set to last thirty months, is being coordinated by the Universidad Politécnica de Madrid and financed by the Interreg SUDOE program (territorial cooperation in Southwest Europe).

It brings together French, Spanish and Portuguese partners in a transnational knowledge portal on agriculture, rural development and the agri-food sector.

The official launch of RED-ITAA is planned for 7 and 8 March 2011 in Madrid, Spain.

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For further information:
www.agropolis.fr/gestion-projets/red-itaa-projet.php

* European Network of Innovation and Technology in the Agricultural and Food Sectors

>ZOOM

Montpellier: 13 research teams unite under the AGAP banner

■ "Genetic Improvement and Adaptation of Tropical and Mediterranean Plants" (AGAP): such is the name of the very large Joint Research Unit (UMR) that has just been established within the Montpellier scientific community. It includes 13 multi-institutional teams that are seeking to establish an international-calibre centre for applied plant biology and genetics.

Jean-Christophe Glaszmann, CIRAD researcher and director of Agape, told the Agropolis International Letter that: *Genetic improvement is our ability to produce plant material adapted to particular agronomic conditions. It is, at the same time, a priority in that it keeps us attuned to the changes in agriculture caused by worldwide changes, and a great scientific challenge, fuelled by advances in genomics, bioinformatics and mathematical modelling.*

Many Montpellier-based teams are working in that broad area. In setting up AGAP, we are bringing together teams that are ready to work in the same areas and generate complementary perspectives and skills. We plan to continue our mission to ben-

efit developing and Mediterranean countries, and hope to meet the strong global demand for research and training in plant improvement and adaptation.

Three main axes

The scientific work revolves around three main axes:

- Dynamics of Diversity and Domestication: the evolutionary history, domestication and evolutionary dynamics of plants, together with strategies for the conservation and use of genetic resources.
- Plant Development and Adaptation: Ecophysiological and genetic analysis of development, plant plasticity and plant populations, as well as adaptation to stress
- Genetics and Plant Breeding: characterisation of target environments, modelling of ideotypes as a function of environments, improved breeding patterns, innovative varieties, social and economic impacts.

Sharing search tools

Several search tools are being shared:
□ Platform for Plant Histology and Imaging (PHIV) (with the BPMP UMR)

- Genotyping Platform (Regional Technical Genotyping Platform)
- Rice Functional Genomics Platform (REFUGE) (with the DIADE UMR)
- South Green Bioinformatics Platform
- Root Phenotyping Platform in collaboration with the PHENOARCH and DIAPHEN platforms now being created.

The UMR is also contributing to a major genetic resources research initiative under the ARCAD project (Agropolis Research Centre for Crop Conservation, Adaptation and Diversity, cf. article on page 1 of this Letter.).

A major training on selection program is also to be developed within the unit.

* Some 350 persons (including 195 career scientists and 38 doctoral students), mostly from CIRAD, INRA, Montpellier SupAgro and INRIA (including 36 expatriate researchers in 35 countries around the Mediterranean, Africa, South America and Asia and 50 officers in the West Indies).

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>TRAINING

A new master's programme this autumn from Montpellier SupAgro: 'Innovations and Policies for Food Sustainability' (IPAD)

■ This course is devoted to trades and skills mobilised in the design and control of innovation policies and methodologies at the international level, as part of sustainable food systems.

This specialised master's programme aims to train senior executives capable of operating internationally to identify and evaluate technical, organisational and regulatory advances with respect to the economic, technical, social and environmental sustainability of feeding the world. It is available to holders of a French or foreign diploma from a 5-year programme (or a 4-year programme for those candidates with at least three years of professional experience compatible with the training objectives). The curriculum includes seven months of theoretical instruction provided in French and English



followed by a five-month professional assignment. This training is given in partnership with CIRAD and officially approved by the *Conférence des Grandes Écoles*.

For further information:
<http://irc.supagro.inra.fr/formations/master-specialise-ipad-195.html>

The Centre d'Études Politiques de l'Europe Latine (CEPEL*) offers 3 international political science master's programmes

The Professional Master 2 programme in Consulting

It offers comprehensive professional training intended to enable students to become junior consultants or research officers who will be immediately operational within a structure focused on the consulting sector at the local, national or international level: design offices, communication, research or business strategy agencies, lobbying firms, NGOs, political institutions (State, European Union, territorial communities...).

This analyst training is based on social science methods. The teaching is broken down into three streams (consulting; market studies and opinion polls; and professionalisation) one of which (market studies and opinion polls) leads to a university degree: thus, students follow one comprehensive training programme but obtain two degrees.

The Professional Master 2 programme in Operational Activities for International Cooperation and Development

It provides training focused on an understanding of the multi-institutional cooperation and international solidarity environment.

It aims to train students so that they can join various organisations (NGOs, consulting firms, consulting services, territorial communities' decentralised co-operation units, international institutions). The training focuses on the expertise needed by programme managers, project coordinators or managers and, more broadly, on an understanding of the context and of the professional tools needed to work in the sector's organisations.

The curriculum comprises 3 modules (determinants and contexts; tools and methods; implementation procedures and professional experience) and a 4- to 6-month internship leading to a dissertation defence in French or English.

The Bilingual Master 2 programme Comparative Politics and Public Policy

It takes as its starting point the observation that the analysis of governments and public action is tightly bound up with the analysis of behaviours, identities and mobilisations.

Bilingual (French/English) training comprises two streams: governments and public action; identities and mobilisations. It includes seminars, language courses and a research paper, which is essentially what the student is evaluated on.

* South European Centre for Political Research, a joint UMI/CNRS research unit

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