



# Vavilov–Frankel Fellowships 2012 Call for Research Proposals



*Bioversity International established the Fellowship Fund in 1989, to commemorate the unique contributions to plant science of Academician Nikolai Ivanovich Vavilov and Sir Otto Frankel. To date, 37 scientists from 24 developing countries have received awards to carry out innovative research related to the conservation and use of plant genetic resources, outside of their home countries for a period of three months to one year.*

**Applications should be sent to:**

Vavilov-Frankel Fellowships  
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**Bioversity International** announces two Fellowships, for up to US\$ 20,000 each, which will be available for 2012 to carry out research, from 3 to 12 months, on a wide range of biophysical, economic and social themes related to the conservation and use of genetic resources in developing countries. Multi-disciplinary research is particularly encouraged.

These opportunities are available thanks to support from **Pioneer Hi-Bred International, Inc.**, United States and the **Grains Research and Development Corporation (GRDC)**, Australia.

The fellowships are intended to cover travel, stipend for living expenses, bench fees, materials, insurance, conference participation and publications. They can be held concurrently with other sources of support.

## How to apply?

Applications should be submitted in English, French or Spanish by 6 November 2011. The Application form and Guidelines can be downloaded from :

[http://www.bioversityinternational.org/training/research\\_fellowships.html](http://www.bioversityinternational.org/training/research_fellowships.html).

They may also be requested by email from [VFF-2012@cgiar.org](mailto:VFF-2012@cgiar.org) The successful applicants will be informed by 30 April 2012 and are required to take up their Fellowships before 31 December 2012.

## Who can apply?

Eligibility for this call is determined on the basis of applicants meeting a number of general criteria and additional criteria for the GRDC-supported fellowship noted on page 2.

## Location where research project will be conducted

If applying to the **Pioneer**-supported Fellowship, research work proposed may be carried out in any country outside the applicant's home country. If applying to the **GRDC**-supported Fellowship, research must be carried out at an Australian research institute or at the International Maize and Wheat Improvement Center - **CIMMYT** or at the International Center for Agricultural Research in the Dry Areas - **ICARDA** (International Agricultural Research Centers of the Consultative Group on International Agricultural Research, CGIAR).

## Applications must include:

- Cover letter
- Completed application form
- Full curriculum vitae (with a list of publications)
- Research proposal prepared following the Guidelines
- Letter of acceptance from the proposed host institute (should follow the Guidelines)
- Letter of support from an institute in a developing country (preferably the home institute) which should specify why the research is important to the institute and should also identify the support that will be provided to the applicant upon return.

**Deadline for application: 6 November 2011**

## General criteria for all applicants

### Nationality

Applicants should be nationals of low and medium income countries, according to the Human Development Index (<http://www.hdr.undp.org/en/countries>)

### Age

Applicants should be no more than 35 years of age.

### Degree

Applicants should hold at least a Master's degree (or equivalent) in a relevant subject area.

### Topic of research

All applications must address one of the Research Themes described on pages 3-4.

## Additional requirements (for the GRDC-supported fellowship only)

Applicants for the GRDC-supported fellowship must **also** meet **one** of the four thematic criteria below, in addition to meeting the Location requirement :

- Target a species that is a priority for both Australia and the home country.
- Target an alternative, neglected or underutilized species with either environmental or economic potential for Australia.
- Work on any of the following specific crops: wheat, barley, oats, sorghum, cereal rye, triticale, maize, canary seed, millets/panicum, canola, linseed, safflower, soybeans, sunflowers, chickpeas, cowpeas, fababeans, field peas, lentils, lupins, mung beans, navy beans, peanuts, pigeon peas and vetch.
- Use biotechnology in support of efficient use of plant genetic resources.

## **RESEARCH THEMES**

**Applications for both the GRDC and Pioneer-supported Fellowships must address one of the following research themes:**

### **Gene discovery in crop wild relatives**

Crop wild relatives (CWR) are a valuable source of genetic variability that has been the basis for crop evolution and will be increasingly important in adapting agriculture to changing growing conditions. CWR held in collections can be mined for genes of interest to breeders. Identifying these genes would not only accelerate breeding efforts, but also provide incentives for the conservation of these CWR in genebanks and in their natural habitats.

### **Use of plant genetic resources for adaptation to progressive climate change**

Many genebanks hold crop accessions that are not adequately characterized or evaluated, thus reducing their potential for use in breeding programmes or directly in farmers' fields. Available information often consists only of passport data recorded at the collection site. The climatic conditions at the collection site can be used as a proxy for absent characterization data. How can georeferences and trait information be integrated with passport data in information systems to enhance the use of these poorly documented materials? What methodologies (including participatory methodologies) exist for identifying genetic materials, in genebanks or *in situ* with potential traits for climate change adaptation? How does farmers' traditional knowledge, including identification of the differential perspectives and roles of women and men, contribute to the use and conservation of diversity for climate change adaptation? What are the local processes for sharing/distributing seed (seed systems) and how can they be adapted for dissemination of germplasm to enhance adaptation to climate change?

### **Facilitating better use of genebank materials**

Genebanks worldwide hold millions of crop accessions, but fewer accessions are used than could be. It is not clear why so little genetic material is put to use. A more complete picture of the extent of use, as well as constraints to use and strategies for enhancing the use of genebank materials in breeding or in farmers' fields will help ensure that genebanks are fully used.

### **Researching neglected and underutilized species for food and nutrition security**

The world relies on very few species and varieties for food and nutritional security today. That creates a situation of high vulnerability for humanity. Hundreds of underutilized species, currently at the margins of R&D have high nutritional content but cannot compete with commodity crops due to several bottlenecks along the value chain, such as the lack of improved germplasm, inefficient agronomic practices, ineffective processing, limited value addition technologies, poor marketing and a lack of supportive policies.

## **Policy research in support of implementation of the International Treaty for Plant Genetic Resources for Food and Agriculture**

The International Treaty on Plant Genetic Resources for Food and Agriculture entered into force in 2004. Parties to the Treaty are committed to creating a common pool of genetic resources to support agricultural research, plant breeding and training. Countries need to implement combinations of policies, laws and administrative guidelines to become fully active participants in the common pool. The effective implementation of the Treaty at the national level requires a comprehensive collection and assessment of baseline information about plant genetic resources conservation and use in each country and protracted engagement with a wide range of stakeholders. National policy makers can use those inputs to identify options for implementing the Treaty.

## **Applying economics to agrobiodiversity conservation, sustainable use and policy analysis**

Many crop and livestock genetic resources tend to be undervalued as they have a range of non-market values associated with them (e.g. adaptive traits, options for the future). This has resulted in a bias against conservation and increasing levels of threat. How important are these unaccounted for values? How to use such values to support conservation and sustainable use? What incentives are needed to encourage conservation and can such incentives be pro-poor? Answering these questions requires the development of appropriate valuation techniques, decision-support tools (combining diversity and conservation cost data) and the design of cost-effective policy options.

## **Management of plant diseases through a better understanding of specific host-pathogen interactions and co-evolution**

Host plant resistance is widely recognised as an economically and ecologically sound approach for managing crop diseases. However, resistance is often not durable in farmers' fields, because in the field other pathotypes of the pathogen may be present than those used in the screening trials or because pathogens may evolve to overcome resistance of the host. A better knowledge of the close interaction and co-evolution of host diversity and different pathotypes/races of a pathogen will help crop improvement programmes in producing more durable sources of resistance and thus allow more sustainable disease management.

## **Farmer, trader and market strategies for adding value to crop diversity**

Within species crop diversity is often expressed in differences in taste, texture, colour and post harvesting handling quality. Certain characteristics may be valued more by the market. However, this situation can be dynamic, since marketing patterns change due to changes in consumer preference, cooking techniques and shifts in distance to market and consumer income. Processors may develop substitute cultivars when the preferred cultivar becomes too expensive or unavailable. How have farmers, traders, processors and markets achieved substitution or diversification of crop cultivars to reduce risk, lower costs and add value to within crop diversity? More studies of crop characteristics related to food quality and changing preferences are needed.