



Bioversity International Vavilov–Frankel Fellowships 2010 Call for Research Proposals



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**Grains
Research &
Development
Corporation**

Two Fellowship opportunities, for up to US\$ 20 000 each, will be available for 2010 to carry out research from 3 to 12 months thanks to support from Pioneer Hi-Bred International, Inc., United States and the Grains Research and Development Corporation (GRDC), Australia. One fellowship may be carried out in any country outside of the applicant's home country. The second fellowship must be carried out in Australia. This call covers a wide range of biophysical, economic and social themes related to the conservation and use of genetic resources in developing countries. Multi-disciplinary and cross-sectoral research is particularly encouraged.

Research themes

We outline specific areas in which Bioversity believes it is important to carry out more research or gather more evidence. Applications for both fellowships must address one of the specified themes (see next page).

The GRDC Fellowship

Proposals for the Fellowship supported by GRDC should be carried out at an Australian research institute and meet at least one of the following four criteria, in addition to one of the themes (see next page):

- 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.

Who should apply?

Applicants eligible for this call should:

- Be nationals of developing countries (The list of eligible countries is available on the [World Bank website](#) (Income group: low-income and lower-middle income only).
- Aged 35 or under
- Hold at least a Master's degree (or equivalent) in a relevant subject area.

How to apply?

Application forms and Guidelines for preparation of research proposals (in English, French and Spanish) can be downloaded from the [Bioversity International website](#) or send a request to: Vavilov-Frankel Fellowships, Bioversity International, Via dei Tre Denari 472/a, 00057 Maccarese, Rome, Italy; Fax:+(39)0661979661; Email a.dimitriadou@cgiar.org. Applications may be submitted in English, French or Spanish and must include:

- Cover letter
- Completed application form
- Full curriculum vitae (with a list of publications)
- Research proposal (should follow the Guidelines provided)
- Letter of acceptance from the proposed host institute (should follow the Guidelines provided)
- 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.

Submission of applications

Applications should be sent by mail, fax or email to Bioversity International at the above address by **8 November 2009**. The selection will be finalized by 31 March 2010. The successful applicants will be informed by 30 April 2010 and are required to take up their Fellowships before 31 December 2010. The maximum award per Fellow will be US\$20,000 which is intended to cover travel, stipend for living expenses, bench fees, equipment, conference participation and publications. Awards can be held concurrently with other sources of support.

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, 33 scientists from 22 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.

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Deadline for application: 8 November 2009

RESEARCH THEMES

Applications 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.

Using climate and environmental data to add value to genebank accessions

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, which would enhance the use of these poorly documented materials.

Facilitating better use of genebank materials

Genebanks worldwide hold millions of crop accessions, but the number of accessions used in breeding programmes is still very limited. The reasons why so little genetic material is put to use are not fully understood yet. A more complete picture of the extent of use, as well as constraints to use and strategies for enhancing their use in breeding and in farmers' fields will help to facilitate better use of genebank materials.

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 their 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 a commons for genetic resources for food and agriculture

International policy fora dealing with genetic resources conservation and use have recently recognized the need to look at the characteristics of different categories of genetic resources (e.g. plant, animal, microbial) and users (e.g. agriculture, pharmaceutical production) with the purpose of establishing coherent access and benefit-sharing regimes. This effort requires a deep sectoral analysis for each category of genetic resources, including: the patterns of their use; the level of interdependency of countries upon them; their importance for food security and for human well-being; and policies and administrative practices governing their use.

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.

*Bioversity International
strives for diversity in
gender and nationality
in its training and
capacity development
programmes*

IPGRI and INIBAP
operate under the
name of Bioversity
International, an
international agricultural
research centre
supported by the
Consultative Group on
International Agricultural
Research (CGIAR)

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.

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.

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.