

IEA # 561  
UBW # 100143



## Postdoctoral Fellow – Pre-Breeder

**Reports to:** Head of Genetic Resources Section

**Location:** Rabat, Morocco

**Advertisement date:** April 9, 2018

**Closing date:** May 6, 2018

### Main purpose of position

ICARDA has a mandate for the improvement of bread and durum wheat within One Global Wheat Program with CIMMYT. ICARDA genebanks hold unique accessions including rich collections in landraces and wild relatives and is using the Focused Identification of Germplasm Strategy (FIGS) for identifying valuable traits. ICARDA intends to exploit this diversity through strengthening pre-breeding efforts and to explore the implementation of the newest technologies of molecular breeding (genomic selection and marker-assisted selection) to deliver superior parental germplasm to the wheat breeders.

ICARDA is seeking a young Post-doctoral fellow capable to introgress and pyramid genes from various sources and to design molecular approaches to assure rapid delivery of improved germplasm to the wheat breeders, including marker-assisted backcrossing, exploitation of doubled haploids and speed breeding, and genomic selection applied in crossing of landraces, wild relatives, synthetics, and elites. The successful candidate will help in establishing a genomic selection platform in collaboration with CIMMYT and other international institutions, to help scale up the application of molecular breeding techniques within the Center, and to provide indications to the national programs of CWANA on how to implement a similar strategy.

### About ICARDA

The International Center for Agricultural Research in the Dry Areas (ICARDA) is an international autonomous, non-profit, research organization supported by the Consultative Group on International Agricultural Research (CGIAR).

ICARDA's mission is to reduce poverty, enhance food, water and nutritional security, as well as environmental health in the face of global challenges including climate change. We do this through innovative science, strategic partnerships, linking research to development and capacity development that take into account gender equality and the role of youth in transforming the dry areas. ICARDA works in partnership with governments, universities, civil society, national agricultural research organization, other CGIAR research Centers, and the private sector. With its temporary Headquarters in Beirut, Lebanon, ICARDA operates in regional and country offices across Africa, Asia and the Middle East. For more information: [www.icarda.org](http://www.icarda.org)

Dalia Bldg. 2nd Floor  
Bashir El Kassar Street,  
Verdun Area, next to Arab Bank  
P.O. Box 114/5055  
Beirut, Lebanon,  
Tel: +961-1-813308/9

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## Main responsibilities

- All responsibilities are within the wheat mandate within CRP wheat.
- Introgress useful genes/alleles identified from various crop gene pools, contribute to field evaluation by breeders, and association mapping techniques.
- Develop marker systems to track the identified useful alleles.
- Maximize time /efficiency of introgression by means of molecular techniques, including genomic selection as a pre-breeding approach (landrace x landrace, landrace x elite, elite x elite), deployment of doubled haploid, speed breeding, markers assisted backcrossing, and marker-assisted recurrent selection.
- With support from ICARDA's statistical unit, establish computational tools to implement genomic selection.
- In collaboration with ICARDA's IT unit, develop and maintain a centralized database of phenotypic and genotypic information regarding the genebank germplasm.
- Establish and/or maintain collaborations with Global Centers of Excellence to review, validate and implement new techniques for pre-breeding.
- Provide training to staff of the national programs, including provision of training materials.
- Publish results in ISI journals.
- Develop research proposals for potential donors/funders.
- Prepare other records and reports as requested.
- Represent ICARDA at regional and international fora.
- Perform any other duties as required by BIGM director.

## Education, qualifications and experience

### Essential qualifications and competencies

- PhD in cytogenetics, plant breeding, molecular breeding, genetics or related discipline.
- One to three years of relevant experience.
- Demonstrated ability to design and implement phenotypic, MAS, and genomic selection breeding schemes.
- Demonstrated ability to handle advanced molecular marker data.
- Academic or practical knowledge of molecular cytogenetic techniques.
- Relevant experience with marker-assisted selection in wheat.
- Proven experience as presenter at international conferences.
- Basic or advance experience in teaching and/or training.
- Proven publication record in research in ISI peer-reviewed journals.
- Excellent interpersonal skills and the ability to work effectively in multi-disciplinary and multi-cultural teams.
- Excellent written and oral communication abilities in English.
- Excellent organisational and time management skills.

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### Desirable qualifications and competencies

- Knowledge of French and/or Arabic.
- Experience with the challenges associated with cereal-based systems.

### Terms of appointment, salary and benefits

This is an internationally recruited position for which ICARDA offers an attractive compensation package including a competitive salary, housing allowance, medical insurance and leave provisions. All benefits are denominated and paid in US Dollars. The successful candidate will be offered an initial contract of 2 years, renewable for 1 more year, subject to satisfactory performance. The first year will be probationary period.

### How to apply

Please apply online at [www.icarda.org/iea/](http://www.icarda.org/iea/) by May 6, 2018

**We are an equal opportunity employer and encourage applications from qualified women. Applications will be acknowledged, but only shortlisted candidates will be contacted.**

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