**PATRON-IN-CHIEF**
Dr. Raja Ali Raza Anwar, Chairman, PAEC, HI., Pride of performance

**PATRON**
Dr. Shakeel Abbas Roofi, Chief Scientist, Member (Science), PAEC, Pride of Performance
Dr.Uzma Maqbool, DCS, Director NIAB

**ORGANIZING COMMITTEE**
Dr. Uzma Maqbool, (DCS/Director, NIAB, Faisalabad)
Dr. M. Kashif Riaz Khan, (DCS/ Head PBG Div. NIAB)
Dr. Muhammad Rashid (DCS/ Rice GL, NIAB, Organizer)
Ms. Benish Iltaf (JS, NIAB, Co-Organizer)
Dr.Adeel Khan (JS, NIAB, Rice Group)
Dr. Zia-ul-Qamar, DCS (Rice Group)

**RESOURCE PERSONS**
Dr. Uzma Maqbool, (DCS/Director, NIAB, Faisalabad)
Dr. M. Kashif Riaz Khan, (DCS/ Head PBG Div. NIAB)
Dr. M. Akhtar, (DCS/Head SESD Div. NIAB)
Dr. Sajid Nadeem, (DCS/Head ASD Div. NIAB)
Dr. Muhammad Rashid (DCS/ Rice GL, PBG Div. NIAB)

**FOR FURTHER INFORMATION**

**Dr. Muhammad Rashid**
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Email: mrashid_niab@yahoo.com;
benish.iltaf3232@gmail.com
Web: http://www.niab.org.pk

# APPLICATION FORM

Paste recent PHOTO Here

Name: .....

Father's Name: .....

CNIC No. .....

Official Position: .....

Uni./Organization: .....

Address: .....

Phone(off): ..... Cell: .....

Fax: ..... Email: .....

Date of Birth: .....

Academic qualification:

| Degree | Institution | Subject | Year |
|---|---|---|---|
| M.Phil. | | | |
| Ph.D. | | | |

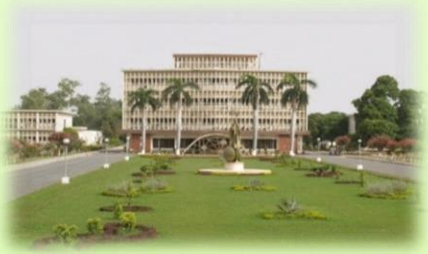
Signature of Applicant.....

Recommendation by
Head of Institution/Dept. .....

NIAB, P. O. Box 128, Jhang Road, Faisalabad, Pakistan.
Web: http://www.niab.org.pk

**Fellowship on "Creation of genetic diversity in rice through mutation breeding" under NIAB-IAEA-CC activity # 1.3.2**

(17th June to 17th July, 2026)



Organized
by

**NUCLEAR INSTITUTE FOR AGRICULTURE AND BIOLOGY (NIAB) Faisalabad, Pakistan**

(PAKISTAN ATOMIC ENERGY COMMISSION)

## Workshop Description

Rice is a staple food for more than half of the world's population and is vital for food security, rural livelihoods, and economic development. However, its production is increasingly challenged by climate change, water scarcity, pests, diseases, and the need for improved yield and grain quality. Enhancing genetic variability is essential for developing improved rice varieties, as the existing genetic base in cultivated rice is often narrow. Mutation breeding offers an effective approach to generate novel heritable variation using physical and chemical mutagens. This fellowship aims to build capacity in inducing and utilizing genetic variability in rice for developing high-yielding, climate-resilient, and improved cultivars.

**Workshop Benefits**

The workshop will benefit students, researchers, and breeders by enhancing their knowledge and skills for improving rice crops against biotic and abiotic stresses in the context of a changing climate through creating genetic variability in rice.

**Eligibility**

Young early career researchers, breeders graduate and postgraduate students.

**Topic coverage**

- Introduction to mutation breeding and its significance in rice improvement
- Importance of genetic variability and need for broadening the rice gene pool
- Overview of physical and chemical mutagens used in rice
- Gamma rays and chemical mutagens (e.g., EMS): principles and applications
- Safety measures and handling of mutagens
- Selection of rice varieties/genotypes for mutagenesis
- Preparation of seed material for mutagen treatment
- Optimization of mutagen dose ($LD_{50}$ determination concept)
- Mutagen treatment protocols and exposure procedure
- Post-treatment seed handling and recovery processes
- Raising of $M_1$ generation: experimental layout and field/greenhouse establishment
- Recording of $M_1$ generation observations (survival rate, fertility, growth effects)
- Data recording and basic statistical considerations in $M_1$ evaluation

**How to apply:**

Duly filled Application form along with copy of CNIC and two passport size photographs must reach the organizer by **June 16, 2026**

Application form can be downloaded from NIAB website (www.niab.org.pk).
Soft copy of application can be sent to
Email: mrashid_niab@yahoo.com
benish.iltaf3232@gmail.com

**Fellowship Fee: Rs. 10,000/-**

Fee will be collected at the time of participation

**Award of certificates:** Certificates will be awarded to all participants who would successfully complete the fellowship.

**Travel accommodation & Lunch:**

Travel, accommodation, and lunch costs will be the responsibility of the candidates.