

APPLICATION FORM

1. Full name (in block letters):
2. Designation:
3. Present employer address:
4. Address to which reply should be sent:
5. Permanent address:.....
6. Date of birth:..... 7. Sex (M/F):
8. Teaching/ Research/ Professional experience (mention post held) during last 5 years and number of publications:
9. Marital Status:
10. Mention if you have participated in any research seminar, summer/ winter/ short courses etc. during last 5 years under ICAR or other organizations:
11. Draft/Postal order for Rs. 50/- (in favour of Director, ICAR-NRRI, Cuttack) towards registration (no-refundable), if applicable:.....
12. Academic records:

Degree	Discipline	Year	Class	University
Ph.D.				
Masters				

Date:

Place:

Signature of participant

13. Recommendation of the Forwarding Institute:

Signature
(with Office seal & date)

Note: Selected candidates will be communicated through email, fax to which they should promptly reply firm acceptance. Also must send copy of booked tickets within 15 days of selection or else new candidates will be selected in their place.

CONTACT INFORMATION

COURSE DIRECTOR

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IMPORTANT DATES

Last date for receipt of application: 30.09.2018
Selection & intimation to applicants: 15.10.2018

ADDRESS FOR CORRESPONDENCE

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ICAR Sponsored Winter School on CLIMATE CHANGE AND ITS IMPACT ON PHOTOSYNTHESIS AND PRODUCTIVITY OF RICE



5th - 26th November, 2018

Organized by
Division of Crop Physiology and Biochemistry



ICAR-NATIONAL RICE RESEARCH INSTITUTE
Cuttack-753006, Odisha, India



BACKGROUND

Photosynthesis research in NRRI (former CRRRI) was initiated during 1969 onwards with the aim to investigate relationship of photosynthesis with productivity efficiency in rice under normal as well as under several abiotic stress situations like low solar incidence during wet season, salinity, water stress (drought) and submergence (flash flood) etc. The study initially explored the variability of photosynthetic rate among traditional and modern elite genotypes. Thereafter, various traits were identified to be associated with higher photosynthesis of genotypes which was further accredited as simple indices to enable select lines from a standing crop in the field to help identify more efficient line having leaf thickness, specific leaf area, specific leaf weight and later the contribution of all these parameters were found relevant to photosynthetic efficiency and higher biomass accumulation. This could help in better agronomic practices including spacing, timing of split application of NPK, steadily intensified over time for in depth understanding of its association with respiration, photorespiration, translocation and more importantly partitioning of biomass. The study as extended in form of an ambition to develop C_4 rice with higher P_N . Expression of important C_4 genes, viz., NADP-ME, PPKK, CA and PEPC were analysed in 3 different C_4 plants.

In the present winter school recent developments in the field of mechanistic development of photosynthesis research with special references to photosynthetic adaptability of super rice, tolerance to various abiotic stresses viz. drought, submergence, salinity, low light etc, development of C_4 rice will be discussed. Besides, hands-on training for relevant state of the equipment will supplement for refreshing and updating the knowledge of faculties/ scientists of SAUs, CAUs, ICAR institutes and KVKs.

COURSE CONTENT & FACULTY

The course will broadly focus on different fundamental and applied aspects of photosynthesis and rice productivity

under changing climatic scenario. The content would cover following topics:

- Climate change and its impact on rice production and productivity
- Physiological analysis of Photosynthesis and productivity of rice
- Photosynthesis and productivity of rice under major abiotic stresses viz. salinity, submergence, drought, heat, low light and stagnant flooding
- Improvement of photosynthesis in rice by introducing the C_4 pathway
- Manipulating photorespiration to increase plant productivity
- Nutrient management in relation to the photosynthetic efficiency of rice
- Chlorophyll Fluorescence and its importance for selecting the rice varieties under abiotic stress

Besides, lectures hand on training and exposure would be given to the participants on

- Infra red Gas Analyzer
- Chlorophyll fluorescence measurement system
- Chlorophyll Fluorescence Imaging system
- Ultramicrotome with Electron Microscopy facility
- All other related equipment for molecular analysis of photosynthesis and productivity
- Transgenic glass house facility
- Tissue culture and transgenic development facility

ELIGIBILITY

Scientists, Assistant Professors or equivalent and above of agriculture/ allied subjects working in ICAR institutes/ SAUs/ KVKs/ CAUs/ Agriculture faculty of AMU, BHU, Viswa Bharati and Nagaland University can apply for this training programme. Work experience in rice crop is desirable. The number of participants will be 25 including institutional candidates (10%). Nominations for the above training should be sent online through CPB portal site (<http://cpb.icar.gov.in>).

The hard copy of successfully submitted online application should be uploaded after approval of competent authority on cpb portal. The same must be sent to the Course Director along with a DD of Rs. 50/- (non-refundable) drawn in favour of ICAR-NRRI, Cuttack.

HOST INSTITUTE

NRRI (former CRRRI), one of the pioneer institute of ICAR established in 1946 and serving the nation with innovative research and technologies and contributed significantly in 'Green Revolution', of India. NRRI, a multidisciplinary institute has more than 90 scientist belonging to five divisions viz. Crop Physiology & Biochemistry, Crop Improvement, Crop Production, Crop Protection and Social Sciences and three regional research stations. Besides, having >100 acres of research farm, library, classroom and guesthouse facilities, NRRI has state-of-the-art laboratories with most advanced instrument facilities.

HOW TO REACH

Cuttack is well connected by road, rail and flight to all major cities in India. The nearest airport is Bhubaneswar ~25 km from the institute. Cuttack railway station is ~5 km from the NRRI campus. The city has well connected AC/Non-AC daily bus service to nearby cities viz. Kolkata, Ranchi, Vizag, Hyderabad etc.

TRAVEL & LOGISTICS

Participants will be paid travel (to and fro) fare by rail (restricted to AC-III/II tier subject to the availability of funds) or by bus as per their entitlement. Actual TA for the shortest route will be paid on production of the tickets. Participants are requested not to bring their spouse or any family member as there is no scope for their accommodation. Shared accommodation in the NRRI Guest House and boarding (food) will be provided to the selected candidates during the training programme. The local candidates are not eligible for boarding and lodging, however, they will be provided local hospitality like working lunch, tea, snacks, etc.