

## How to Reach NIASM



**An unique Research Institute and  
Deemed to be University in the Making**

Water      Soil      Atmosphere  
Excess or Deficit; High or Low



### Mandate

- ❑ Basic and strategic research to manage abiotic stresses in crops, livestock and fisheries.
- ❑ Repository of information on abiotic and biotic stresses, adaptation and mitigation strategies and policies.
- ❑ Building sustainable agriculture in multi-stressed agro-ecosystems.
- ❑ Serve as Center of Academic Excellence in managing multiple stresses in agriculture.

### PATRON

**Dr. H Pathak, Director**

ICAR-National Institute of Abiotic Stress Management, Baramati

### COURSE DIRECTOR

**Dr Jagadish Rane, Head, SWSM**

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### COURSE COORDINATOR

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## Short-term Training Course on

## "Advances in Application of Phenomics Tools for Assessment of Abiotic Stress Responses of Crop Plants"

(February 2-11, 2022)



Organized by

**ICAR - National Institute of Abiotic Stress Management**

Baramati, Pune, Maharashtra 413 115.

Sponsored by

Indian Council of Agricultural Research,  
MINISTRY OF AGRICULTURE & FARMERS WELFARE,  
GOVERNMENT OF INDIA



Short Term Training Course on  
Advances in Application of Phenomics Tools for  
Assessment of Abiotic Stress Responses of Crop Plants

About the Institute

ICAR-NIASM, an unique institute of Indian Council of Agricultural Research (ICAR), was established in 2009 at Malegaon Khurd, Baramati. The institute aims at exploring the avenues for management of abiotic stresses affecting the very sustainability of national food production systems. It specifically addresses stresses induced by water, atmospheric, and edaphic factors, which cause substantial losses in crop productivity depending on their magnitude. Since these stresses are predicted to amplify due to climate change, the primary task for the institute is to undertake basic and strategic research for mitigation and adaption options to manage abiotic stresses in agriculture. The institute is being structured to enhance capacity of scientists and policy makers mainly by imparting knowledge and by providing the state-of-art facilities for multidisciplinary and multi-commodity research. The institute has recently established National Phenomics Facility for high throughput phenotyping and being used to screen germplasm of different crops. In addition, some phenomics tools have been developed for field phenotyping.

About the Training

Adaptation of crops to abiotic stress is crucial for improvement in productivity under abiotic stress environments. Hence, the focus of research across the agricultural institutes is on ‘genetic improvement’ as the reliable option for making the crops resilient. The past effort in this regard were largely based on yield and yield components. But these approaches at present are not as successful as before. Unimpressive genetic gain in yields during the recent years suggest necessity for a priority to stress tolerance traits in crop improvement programme. Identification of novel traits and phenotyping large set of genotypes for these traits are being perceived as key for enhancing the productivity of crops under stress environments. The feasibility and the precision of phenotyping are expected to facilitate genomics driven crop improvement. The necessity to accomplish this task has now given rise to modern science called phenomics, which intends to characterize plant responses to environmental factors through image based, automatic and non invasive methods. This training aims to introduce the participants to the emerging field of non-destructive high throughput phenotyping. The participants will also be provided with hands on training in both conventional and recent non-destructive image based tools for assessing crop responses to stress. In addition, approaches for managing huge set of data generated by machines will be introduced.

Objectives of the Training

To update the scientists of Assistant and Associate Professors rank in the ICAR institutes, SAUs and CUs/DUs about ‘phenotyping and phenomics concepts and tools’ for abiotic stress tolerance in crop plants and to prepare them as potential contributors for Crop Phenome Database critical for long term strategy to develop stress tolerant cultivars.

Weather of Baramati

The weather during the training period will be pleasant with mild temperature around 28-29°C (day) and 20-22°C (night). Vast stretch of agricultural fields all around the institute significantly contributes to the pleasant ambience.

How to reach NIASM?

**Pune to Baramati by Bus:** Non-stop buses between Pune and Baramati are available every half an hour (5am-8pm). On an average, Pune to Baramati travel time is 2 ½ hours.

**Daund to Baramati by Bus:** Buses from Daund are available on hourly interval and travel time is approximately one hour.

**Pune to Baramati (via Daund) by Train:** Passenger trains ply between Pune and Baramati (via Daund) twice a day. Average travel time from Pune to Baramati is 3 hours.

Eligibility

Active researchers/ teachers not below the rank of Assistant Professor or equivalent from SAUs/ CUs/ DUs/ ICAR/ National Institutes/ SMS of KVKs, having minimum two years of experience, in the disciplines of Agriculture/ Horticulture and allied Sciences are eligible to apply. The A total of 25 candidates will be selected for this course. The selection of the candidates will be made by a Screening Committee as per the available guidelines of the ICAR and those who are associated with pheotyping crop plants will be given priority.

How to Apply?

Nomination for the training should be sent online through CBP portal site (<http://cbp.icar.gov.in/>). The hard copy of successfully submitted online application along with a postal order/ DD of Rs. 50/- (Non- refundable) must be sent to the Course Director, after approval of the competent authority of the participant. The demand draft should be drawn in favour of ICAR Unit, NIASM payable at Baramati, Pune. In case of any difficulty in applying online using CBP portal, the participants should send the application form duly filled-in and approved by the competent authority of the organization or through proper channel to Course Director on the address given in brochure. The last date for receiving nomination is Dec 20, 2021.

Accommodation and Travel

Boarding and lodging will be provided to the participants during the training period at the NIASM guest house on sharing basis. Travel Allowance to the participants will be paid as per their entitlement for the class of travel, restricted to the maximum of AC II tier fare by the shortest route. Participants are required to produce receipts/ tickets in support of their claim. The reimbursement will be made as per ICAR guidelines. However, the candidates are encouraged to arrange their travel expenses from their parent Institutes.

Applications may be sent to:

Dr Jagadish Rane  
Principal Scientist & Head  
ICAR-NIASM , Malegaon, Baramati, Pune, Maharashtra – 413 115  
Mobile no:9404684508  
Email:Jagadish.rane@icar.gov.in

Important Dates

Last date for receipt of application : Dec 20 2021

Intimation of selection of candidates : Dec 24, 2021

Last date for confirmation from participants : Jan 1, 2022

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Application From

Name :
Designation :
Present employer with full address :
Address for communication :
Telephone : (R) (O) Fax :
Email :
Date of birth & age : Sex : Male [ ] Female [ ]
Teaching, research, professional experience : Mention post held during last 5 years and number of publications)
Field of specialization and current area of research/ teaching

Academic Record

Degree with Specialization	Year of Passing	Institute / University	OGPA
UG			
PG			
Ph.D.			

Details of the training attended during the last three years
1.
2.
Demand Draft ..... Dated .....of Rs. 50/- in favour of ICAR Unit NIASM, payable at Baramati, Maharashtra towards registration fee (non- refundable)

Signature of applicant with date and place

Recommendation of the forwarding authority

Certificate

Certified that the information furnished by the applicant is found to be correct

Signature and designation of the sponsoring authority