



Capacity Building Program on

***“Green technologies for utilization of entomopathogenic nematodes for sustainable soil insect pests in crop situations”***

September 3-6, 2018



Organized by



Human Resources Development Cell,  
ICAR-National Bureau of Agricultural Insect Resources,  
P.B.No.2491, HA Farm Post, Bellary Road, Bengaluru-560024

### **About the Capacity Building Program:**

Entomopathogenic nematodes (EPN) like *Steinernema* spp. and *Heterorhabditis* spp. and their symbiotic bacteria (*Xenorhabdus* spp. in *Steinernema* and *Photorhabdus* spp. in *Heterorhabditis*) are important biotic factors in suppression of insect pest populations in soil and cryptic habitats. They are widely distributed in soils throughout the world. Infective juveniles (IJ), the only free-living stage, penetrate insect hosts through natural openings (mouth, anus, and spiracles) or directly through the cuticle. After entering the insect the haemocoel, IJ releases their bacterial symbionts, which are responsible for killing the host with 24 to 48 h. The bacterial symbiont digests the host tissues, thereby providing suitable nutrient and environment for nematode growth and development. The virulent species of these nematodes are commercially produced as biological control agents all over the world. India has a great potential to exploit these beneficial nematodes for the suppression of insect pests.

ICAR-NBAIR, erstwhile, Project Directorate of Biological Control (PDBC) hand-in-hand with AICRP Biological control of Insects, Diseases, Weeds and Nematodes have immensely contributed to the science of biological control of insect pests, diseases, weeds and nematodes, and is considered as the centre of excellence for microbial biocontrol in the country. The expertise and technological knowledge evolved by the scientists have been formulated in to a training module for the benefit of enthusiastic scientists, faculty and researchers pursuing biological control of insect pests across the country. The current program envisages capacity building in the field of biological control.

### **About the Bureau**

ICAR-National Bureau of Agricultural Insect Resources (NBAIR), formerly National Bureau of Agriculturally Important Insects (NBAII) is located in Bengaluru, Hebbal in the same premises at which The Commonwealth Institute of Biological Control (CIBC), Indian Station was established in 1957. The advent of CIBC marked the beginning of organized and systematic biological control research in India. During this period, our knowledge of natural enemies of crop pests and weeds increased manifold. CIBC Indian station was closed during 1987 and All India Coordinated Research Project on Biological Control of Crop Pests and Weeds (AICRP-BCCP&W), which was launched in 1977 under the aegis of the Indian Council of Agricultural Research was shifted to the same campus in 1988. The centre was named as Biological Control Centre and the entire program functioned under the administrative/financial control of the National Centre for Integrated Pest Management (ICAR). In the eighth five-year plan, the project was elevated to an independent Project Directorate of

Biological Control, with its headquarters in Bangalore during 1993. PDBC was the nodal agency in the country that organizes biological control research at the national level with 16 centres spread across the country. The Directorate at Bangalore carried out basic research on the biosystematics of important groups of insect bioagents. The reference collection maintained at PDBC was catalogued in the form of a technical bulletin on and also available in a retrievable, electronic format. Besides, work on strain development, molecular characterization, mass production technologies, semiochemicals, biopesticides work for insect and disease management was intensified. During XI plan, PDBC was upgraded as National Bureau of Agriculturally Important Insects (NBAIL) to act as a nodal agency for collection, characterization, documentation, conservation, exchange and utilization of agriculturally important insect resources (including mites and spiders) for sustainable agriculture. In the twelfth five year plan the Bureau is now renamed as ICAR-National Bureau of Agricultural Insect Resources (NBAIR) and the bureau's activities are divided in three divisions.

### How to Reach

ICAR-NBAIR is located on the Bengaluru-Bellary Highway NH 7 towards the Kempegowda International Airport, opposite CBI Bus stop, Gangenahalli. The Bureau is located 6 km from Cantonment railway station/about 6 km from Yaswanthpur railway station/ 8 km from Krantivira Sangolli Rayanna Bengaluru railway station and 28 km from Kempegowda International Airport, Devanahalli. Buses plying to Yelahanka, Devanahalli, Doddaballapur, international airport halt at Gangenahalli or CBI Bus stop on NH 7. Participants are requested to alight at CBI/Gangenahalli bus stop to reach ICAR-NBAIR. Pre-paid three-wheeler/taxis can be availed from Airport/Railway stations/Bus stations.

### Eligibility

The Capacity Building program is open for participants from ICAR institutes/SAUs/CAUs/Agriculture Faculty of NARES in the cadre of Assistant Professor or equivalent & above and currently actively engaged in research on biological control of insect pests. *A maximum of 10 participants will be selected for the training. Interested participants need to get sponsored by their respective institutes for their travel, boarding and lodging.* No registration fee is charged from the selected participants or their sponsoring organizations/institutes.

### Travel, Boarding and Lodging

Participants essentially need to get sponsored from their respective organizations. No TA, DA or free accommodation will be provided by the

Bureau. Participants shall be provided accommodation as per ICAR Guesthouse rates in the ICAR-NBAIR guesthouse/trainee hostel, with dining and cook facilities. Wholesome meals and refreshments shall be provided at the rates approved by the Council. The participants are requested not to bring their spouse or any family members as the accommodation is sufficiently enough for the trainees/participants. Bureau shall provide trainees with tea during sessions. Outstation participants are requested to reach one day prior & plan their departure on last day of training program after 16.00 hrs.

### How to Apply

1. The complete application may be sent to below correspondence addresses.
2. The application should be submitted through proper channel.
3. Brochure of Capacity Building Program details is available online at <http://www.nbair.res.in/>
4. The selected candidates will be informed by e-mail/website of the institute. Once the candidates are intimated about their selection for CBP, they need to confirm their acceptance latest by August 20, 2018.

### Important Dates

- Last date for receiving of application: August 16, 2018
- Notification of selection: August 18, 2018
- Commencement of Capacity Building Program: September 3, 2018

### Correspondence

All the correspondence to be addressed to

#### In-Charge, HRD Cell

Dr. R. Rangeshwaran, Principal Scientist,

Email: rangeshw@gmail.com, Mobile: 9449006823

#### Course Director

Dr. M. Nagesh, Principal Scientist,

Email: nagesh.M@icar.gov.in; nageshmnbaii@gmail.com,  
Mobile:9845753113

#### Co-Coordinator

Dr. Jagadeesh Patil, Scientist

Email: patiljaggi@gmail.com

Mobile: 8050321486

Dr. Mahesh S. Yandigeri, Sr. Scientist

Email: micromahesh@gmail.com

Mobile: 9480046850

ICAR - National Bureau of Agricultural Insect Resources  
H.A. Farm Post, Bengaluru-560 024

**Registration/Application Form**

HRD Capacity Building Program on

***“Green technologies for utilization of entomopathogenic nematodes for sustainable soil insect pests in crop situations”***

**September 3-6, 2018**

(Last date for receiving of application: August 16, 2018; Notification of selection: August 18, 2018 ; Commencement of Capacity Building Program: September 3, 2018 )

1. Full name (in block letters): \_\_\_\_\_

2. Designation: \_\_\_\_\_

3. Specialization: \_\_\_\_\_

4. Present employer and address: \_\_\_\_\_

5. Address for correspondence (along with email and contact number):

\_\_\_\_\_  
\_\_\_\_\_

5. Date of Birth: \_\_\_\_\_

6. Sex (Male/Female): \_\_\_\_\_

9. Accommodation required: Yes/No

Signature of the applicant

**Recommendations of the forwarding Institute**

Dr./Shri./Ms. \_\_\_\_\_ is hereby nominated and sponsored for participation in the ICAR-NBAIR, Bengaluru sponsored HRD Capacity Building Program on “Green technologies for utilization of entomopathogenic nematodes for sustainable soil insect pests in crop situations” from September 3-6, 2018.

Signature with date:

Designation & Address

Office Seal of the Sponsoring Authority