



Interregional Training Course on Use of the Sterile Insect and Related Techniques for the Area-wide Integrated Management of Insect Pests

Hosted by

The Government of Mexico and Guatemala

through the

Programa Mosca del Mediterraneo -Programa MOSCAMED- Mexico
Tapachula, Mexico

10 June to 23 June and 1 July to 5 July 2019

and

Guatemala-Mexico-USA Medfly Eradication Commission
Guatemala, Guatemala City

24 to 28 June 2019

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Information Sheet

Purpose

The purpose of the course is to provide a thorough overview and training on the integrated application of nuclear and related techniques within the context of area-wide insect pest management programmes to managers of insect control programmes, animal/human health and plant protection officials and applied research entomologists.

Working Language(s)

The working language(s) of the event will be English.

Deadline for Nominations

Nominations received after **28 February 2019** will not be considered.

Participation

The event is open to 25 participants from IAEA and FAO Member States in all geographical regions. Preference will be given to qualified candidates from developing countries.

Purpose of the course

The purpose of the course is to provide a thorough overview and training on the integrated application of nuclear and related techniques within the context of area-wide insect pest management programmes to managers of insect control programmes, animal/human health and plant protection officials and applied research entomologists. The course will include the concept of integrated area-wide insect pest management, radiation-induced sterility, the Sterile Insect Technique (SIT), Inherited Sterility (F1 Sterility), integration of pre- and post-harvest control methodologies, compatibility of control methods, the biology, ecology, genetics and surveillance of pest insect populations subjected to control, economic analysis of area-wide programmes and reviews of major past and ongoing SIT programmes.

Scope and Nature

The course will last for four weeks, with each week about 20 hours of lectures, 4 hours of discussion, 3 laboratory periods of about 3 hours each and field visits to operational programme activities. Emphasis will be placed on the area-wide concept of integrated insect pest management and on the practical applications of integrating nuclear techniques including the SIT, Inherited Sterility and other genetic methods of insect control, with other methods, including the augmentative releases of natural enemies. Participants will actively participate in preparing and discussing theoretical approaches to specific case studies and for this purpose are encouraged to bring technical materials related to major key pests in their region.

The course will include lectures on:

- Principles of area-wide insect control for integrated pest management as part of suppression, containment, eradication or prevention programmes.
- Principles of SIT, inherited sterility and other genetic control methods.
- The concept of key and secondary insect pests and the economics of area-wide control programmes.
- The management of area-wide insect pest control programmes.
- Application of SIT or Inherited Sterility for major insect pests: pest population suppression techniques, surveillance and monitoring, insect colonisation, mass-rearing, sterilisation, releases and major sterile insect release programmes (case studies), including fruit flies, tsetse flies, screwworms, mosquitoes, moths and beetles.
- Specific developments in the control of insect pests in agricultural, veterinary and medical entomology, including the SIT, inherited sterility, augmentative biological control, attractants, pheromones and integrated pest management.
- Reproduction biology and ecology of some key Diptera and Lepidoptera species.
- Genetic sexing and other developments related to classic and molecular genetics, and populations genetics.
- Principles of, and methods in, radiobiology, including radiation measurement equipment, radiation safety, radiation dosimetry, and radiation effects on insects and cells.
- Use of computers for data management, models of SIT impact on insect populations and their distribution, GIS and analysis of insect population dynamics and insect control.
- Implications for international trade resulting from insect pest infestations, post-harvest treatments, systems approach, quarantine and pest free or low prevalence areas.

The Laboratory exercises and field visits will cover:

- Radiation sterilisation of insects, dosimetry and procedures related to the SIT.
- Assessment of sperm transfer, reproductive physiology and chromosome aberrations.
- Insect mass-rearing and quality control.
- Sterile fly packing, transport, emergence and aerial release procedures.
- Discrimination of sterile and wild flies catch in traps.
- Introduction to genetic and molecular biology studies.
- Field cage mating behaviour studies.
- The use of GIS to manage field data and guide field operations.

- Web-based data management and sharing.
- Economic benefit-cost analyses.
- Databases on insect sterilization and disinfection.

Visits to mass-rearing and sterilization facilities, mass-production of parasitoids, release centres, field monitoring, baiting and ongoing field programmes.

Participants' Qualifications and Experience

Applicants must have at least a Bachelor of Science degree or equivalent in entomology or a related biological field. Preference will be given to those in pest control policy-formulating positions or managing or preparing applied pest control programmes, or who have had at least several years of practical experience in post-graduate applied research or teaching on pest control. As the course will be conducted in English, participants must have an adequate working knowledge of that language.

Participants should demonstrate that after the training they will continue to be engaged in the implementation of animal/human health or plant protection, insect control or eradication programmes, entomological teaching, or applied pest control research in which their training will be immediately utilised.

Application Procedure

Candidates wishing to apply for this event should follow the steps below:

1. Access the IAEA TALEO page (<https://iaea.taleo.net/careersection/ex/jobsearch.ftl>) and complete the Candidate Profile.
2. Be registered on the Nucleus page of the IAEA (<https://nucleus.iaea.org/>).
3. Through Nucleus, access the InTouch+ platform where the Profile is completed (My Profile tab) (<https://nucleus.iaea.org/Pages/InTouchPlus.aspx>).
NOTE: The email used for TALEO and Nucleus must be the same. If not, the candidate's profile will not appear complete.
4. On the InTouch + platform, under the 'My InTouch +' tab, the candidate needs to:
 - a. select the institute / organization that he/she works at / represents ('My Institute' section);
 - b. click on the link called '**Refresh Personal History Form**' to update the system, *otherwise the nominations submitted will have these fields empty and it will not be possible to evaluate them during the selection of candidates* ('IAEA Recruitment Platform' section).

NOTE: Once the above steps are finalized, the candidate's profile will appear as completed and he/she can apply for Technical Cooperation events.

5. In the InTouch+ platform (<https://intouchplus.iaea.org>), in the 'Applications' tab, search by the event number provided in the invitation.

The help for each step is located at the top of the page. For additional help on how to register, create a profile and apply for an event, please refer to the online guide and training videos available under the following links: [how-to guide](#) and [training videos](#). Any issues or queries related to the new system can be addressed to InTouchPlus.Contact-Point@iaea.org or TC-AIPS-PL4.Contact-point@iaea.org.

Should this not be possible, applicants may download the Nomination Form for the TN from the IAEA website <https://www.iaea.org/services/technical-cooperation-programme/how-to-participate>.

Applications should contain sufficient information to establish that the nominees have the required qualifications. Please note that the information regarding LANGUAGE SKILLS, EDUCATION AND WORK EXPERIENCE is exported from TALEO. If an applicant's profile in TALEO is not updated, the information in INTOUCH+ for these sections appears as empty and the candidates cannot be evaluated. Completed applications need to be endorsed by the relevant national authority, i.e. the National Liaison Office and submitted through the established official channels.

Administrative and Financial Arrangements

Nominating authorities will be informed in due course of the names of the candidates who have been selected, and will at that time be informed of the procedure to be followed with regard to administrative and financial matters.

Selected participants will receive an allowance from the IAEA sufficient to cover their costs of lodging, daily subsistence and miscellaneous expenses. They will also receive either a round-trip air ticket based on the most direct and economical route between the airport nearest their residence and the airport nearest the duty station through the IAEA's travel agency American Express, or a travel grant, or they will be reimbursed travel by car/bus/train in accordance with IAEA rules for non-staff travel.

Disclaimer of Liability

The organizers of the event do not accept liability for the payment of any cost or compensation that may arise from damage to or loss of personal property, or from illness, injury, disability or death of a participant while he/she is travelling to and from or attending the course, and it is clearly understood that each Government, in approving his/her participation, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks.

Note for female participants

Any woman engaged by the IAEA for work or training should notify the IAEA on becoming aware that she is pregnant.

The Board of Governors of the IAEA approved new International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. The Standards deal specifically with the occupational exposure conditions of female workers by requiring, inter alia, that a female worker should, on becoming aware that she is pregnant, notify her employer in order that her working conditions may be modified, if necessary. This notification shall not be considered a reason to exclude her from work; however, her working conditions, with respect to occupational exposure shall be adapted with a view to ensuring that her embryo or foetus be afforded the same broad level of protection as required for members of the public.

Course Directors

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