

## **Mexico-Japan Exchange Program for the Strategic Global Partnership**

### **Information for applicants**

#### **1. Course Title**

Evaluation, characterization and preservation of Crops, Forestry, Livestock, Aquatic and Microbial Genetic Resources

#### **2. Name of Mexican Organization:**

National Forestry, Crops and Livestock Research Institute (INIFAP) – National Center for Genetic Resources (CNRG)

#### **3. Brief Profile of the Organization and the Department that will receive the Japanese trainees.**

INIFAP is an institution of excellence in science and technology, with leadership and with national and international recognition for its capability to respond to demands in knowledge and technological innovations in the agricultural, livestock and forestry sector. CNRG (National Genetic Resources Center) as a part of INIFAP has the responsibility to safeguard the genetic resources important for food, agriculture and environment. CNRG has modern facilities and last generation equipment for adequate evaluation, characterization, processing and long term preservation of agricultural, forestry, livestock, aquatic and microbial genetic resources.

#### **4. Course dates:**

From August 27 to September 11, 2018

#### **5. Field of the Training Program:**

Evaluation, documentation, characterization, process and preservation of phyto-genetic, zoogenetic and microbial genetic resources.

#### **6. Course Objective:**

To acquire basic knowledge and specific concepts for evaluation, documentation, characterization, process and preservation of phyto-genetic, zoogenetic and microbial genetic resources.

#### **7. Tentative Course Program (Contenido temático)**

- Lectures and lab activities on orthodox seeds, CNRG
- Lectures and lab activities on “in vitro” culture of plant tissues, CNRG
- Lectures and lab activities on DNA and Genomics, CNRG
- Lectures and activities on zoogenetic resources, CNRG
- Lectures and activities on microbial genetic resources, CNRG
- INIFAP seed production program at the Centro Altos de Jalisco Research Station, CIRPAC
- INIFAP forage species genetic resources program at “El Verdineño” Research Site; CIRPAC
- Visit to local farms and markets

## 8. Tentative Schedule of the Training Program

August 27

Arrival to Mexico City

August 28

Welcoming Ceremony at Ministry of Foreign Affairs

Moving from SRE to airport

Flight to Guadalajara and move to Tepatitlan

August 29

Welcome and visit to National Genetic Resources Center (CNRG)

*José Fernando De la Torre Sánchez, Ph.D.*

*Director of CNRG*

Visit to labs and preservation areas of the CNRG, INIFAP

Visit to the *In Vitro* and Cryopreservation lab

- Presentation: "*In vitro* cultivation"
- Plant tissue culture practice

August 30

Visit to the *In Vitro* and Cryopreservation lab

- Presentation: "cryopreservation"
- Plant tissue culture practice
- Cryopreservation practice

August 31

Field trip to the Centro Altos de Jalisco Research Station

- Welcome to the Centro Altos de Jalisco Research Station
- Visit to the Centro Altos de Jalisco Research Station field and facilities
- Genetic improvement and seed production program for maize
- Visit to the Orthodox Seeds Lab at CNRG
- Seeds acceptance checking
- Seed Cleaning
- Physical quality assurance

September 1

Visit to the Orthodox Seeds Lab

- Germination tests
- Viability tests
- Physical and Physiological seed assurance practice
- Dormancy in seeds
- Long time seed preservation
- Seed conditioning practice

September 2

Field trip to the "El Verdineño" Research Station

- Forage species germplasm program

September 3

Visit to the DNA and Genomics Lab

- Presentation “GMO detection using TaqMan Assay”
- GMO detection strategy at the CNRG (*Felipe Guzman Rodríguez, Ph.D.*)

September 4

Visit to the DNA and Genomics Lab

- Maize molecular characterization (GBS strategy)
- Practice in Laboratory

September 5

Visit to the Animal Genetic Resources Lab

- Semen evaluation
- Semen evaluation practice

September 6

Visit to the Livestock and Fishery Lab

- In vitro production of embryos
- In vitro production of embryos practice

September 7

Visit to the Microbial Genetic Resources Lab

- Presentation “Microbial genetic resources”
- Isolation and selection of bacteria that adversely affect crops
- Lab practice

September 8

Visit to the Microbial Genetic Resources Lab

- Preservation techniques for microorganisms
- Bioinformatics
- Lab practice

September 9

Visit to a tequila factory

Moving from tequila factory to Guadalajara airport

Depart from Guadalajara to Mexico City

September 10

Course Report in Mexico City & Farewell Ceremony

September 11

Return to Japan

## **9. Trainees profile (academic, professional, linguistic, others)**

Academic Background Bachelor's degree at least

Work Experience	Not required, desirable some experience in agronomic or livestock areas
Years of Experience	N/A
Language Proficiency	English Scores: TOEIC: 700 pts TOEFL PBT: 500 TOEFL IBT: 90 IELTS: 6

**10. Dress code:**

Casual; lab attire will be provided by CNRG