

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

### Information for applicants

#### 1. Course Title

Bioinformatics and Systems Biology

#### 2. Name of Mexican Organization:

Center for Research and Advanced Studies (Cinvestav)

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

The mission of Cinvestav is to perform cutting edge basic and applied research, generate high level scientific and technological human resources, and develop technology for the solution of national problems. Cinvestav is ranked as the No. 1 research institution in Mexico by the Laboratory of Cybermetrics, CSIC, Spain. A rich diversity of research projects are carried out in the Department of Infectomics and Molecular Pathogenesis such as the study of cancer and infectious, chronic, autoimmune and neurodegenerative diseases.

#### 4. Course dates:

October 6-12, 2019 (October 5, flight to Mexico. October 13, return to Japan).

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

Bioinformatics

#### 6. Course Objective:

With the accelerating progress in the knowledge of human genetics, a huge body of powerful technologies are being applied to basic and clinical medical research. Computational analysis of sequencing data has thus become increasingly important. Bioinformatics and Systems Biology are hybrid sciences that link biological data with techniques for information storage, distribution, and analysis to support multiple areas of scientific research, including biomedicine. This course provides a unique opportunity for Mexican graduate students doing research in the biological/medical field to learn the applications of bioinformatics and meet Japanese researchers working at the frontline of this exciting field.

#### 7. Tentative Course Program

- Analysis of NGS output data
- Analysis for Genome-wide Association Studies (GWAS)
- In depth analysis of TCR and BCR
- Exome sequencing data
- Liquid biopsy

#### 8. Tentative Schedule of the Training Program\*

- **October 6:** Welcoming and Introduction session
- **October 7 & 8:** Bioinformatics and Systems Biology course will be held in Mexico City (morning and afternoon)
- **October 9 – 12:** Japanese researchers will participate in the annual meeting of the Mexican College for Cancer Research to be held in Puebla City, which will provide an excellent opportunity for Japanese researchers to interact with Mexican students and researchers.

\*The detailed program will be sent to accepted participants one month prior to the course.

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

Academic Background      PhD researchers or PhD students working in the field of bioinformatics and systems biology.

Work Experience              Ample experience in the analysis of NGS data

Language Proficiency      English Scores:  
TOEIC: 700 pts  
TOEFL PBT: 500  
TOEFL IBT: 90  
IELTS: 6

#### 10. Dress code

Casual