

MECHATRONIC SYSTEM

1. PURPOSE OF THE COURSE

The purpose of this training course is to acquaint the participants with modern technology in the field of mechatronic systems, through conducting research and development of original systems. The participants are to learn wide range of engineering and methodology in R & D, both hardware and software, which can be applied to their own activities in Mexico in the near future.

2. TRAINING PROGRAM

(1) General Orientation and Japanese Language Program

The General Orientation and Japanese Program are organized at the Osaka International Centre (OSIC) of JICA prior to the technical training, to assist participants in understanding Japan and adjusting themselves to life in Japan, and thus to facilitate effective training.

(2) Technical Training

The contents and topics of the training will be decided through discussion between participants and the professor. Below topics can be provided.

- Research themes (one or more of these items below) -

- a) Development of control system for original ultra-precision profiling and milling machine
- b) Design and construction of miniaturized mechanical systems
- c) Analysis and control of micro-positioning devices
- d) Desk-top hybrid machining system integrated with mechanical and non-mechanical processes
- e) Precise laser processing and measuring technology using an identical laser source
- f) A DSP-based control system for a high-speed motion control
- g) Development and evaluation of multi degree-of-freedom magneto-electric actuators.

*Attending conference related to mechatronics and precision engineering are available.

Technical visit to companies may be available by chance.

3. NUMBER OF PARTICIPANTS TO BE ENROLLED

Up to (4) persons

4. TRAINING DURATION (from March 2010 to November 2010)

(1) Briefing

March 8, 2010

(2) General Orientation

From March 10, 2010 to March 12, 2010

(2) Japanese Language Program

From March 15, 2010 to April 30, 2010

(3) Technical Training

From May 6, 2010 to November 4, 2010

5. TRAINING INSTITUTION

(1)General Orientation / Japanese Language Program

Osaka International Centre (OSIC), JICA

No.25-1, Nishi-Toyokawa-cho, Ibaraki-shi, Osaka 567-0058, Japan

Tel: +81(*)-72(**)-641-6900 Fax: +81(*)-72(**)-641-6910

URL: <http://www.jica.go.jp/worldmap/english.html#osaka>

(2)Technical Training

under consideration

6. CONDITION OF APPLICATION

Applicants should:

- (1) have graduated from, at least, four-year university and have majored mechanical engineering, electrics/electronics or instrumentation & control;
- (2) have experience of working as a researcher or an engineer in academic sector in Mexico (universities or public research institutions), in principle;
- (3) have sufficient ability in speaking and writing English or Japanese;
- (4) be in good health, both physically and mentally;
- (5) have sound intention to learn many things offered in the course;
- (6) not be serving in the military; and
- (7) have an obligation to keep the rules for maintenance of secrets with AIST

*(1) is significant.

7. JOB REPORT

Each applicant is requested to prepare a report on the present or previous situation of the own field of work or research. The report should be typewritten, including the answers to and the descriptions of the following questions, and submitted together with the Nomination Form. **Any application not accompanied by a completed report will not be accepted.** Applicant's reports are used for the selection of participants, and as training materials.

1) Name of the training course: **MECHATRONIC SYSTEM**

2) Name of applicants:

3) Name of the organization to which the applicant belongs:

4) Organization chart

*Draw a chart of your organization, and point out specifically the department (or section / division) which you are in:

5) Describe your work (within 2 pages)