SAMPLE PREPARATION FOR TRANSMISSION ELECTRON MICROSCOPE (JEOL ARM 200F)

10-11th JANUARY 2017

UNIT PENGURUSAN MAKMAL UNIVERSITI (UPMU)

UTM UNIVERSITI TEKNOLOGI MALAYSIA

TENTATIVE PROGRAMME:

10thJANUARY 2017 (TUESDAY)

8:30 am:	Registration
9:00 am:	Theory & Principle of Sample Preparation for TEM • Powder • Bulk Sample using Ion Slicer • Focus Ion Beam (FIB) **By Dr Mohd Zamri Mohd Yusop, FKM**
10:30 am:	Tea break
10:45 am:	A Method for preparing powdered sample for TEM
11:30 am:	A method for preparing sample TEM using Ion Slicer
12:45 pm:	Lunch break
2:00 pm:	A method for preparing sample thin lamella using Focus Ion Beam (FIB)
3:30 pm:	Q & A session
5.00 pm:	End

11th JANUARY 2017 (WEDNESDAY)

8:30 am:	Registration
9:00 am:	Hands-on session for preparing powdered sample for TEM (G1)
9.45 a.m:	Hands-on session for preparing powdered sample for TEM (G2)
10:30 am:	Tea break
10:45 am:	Demo session for preparing sample TEM using Ion Slicer (G1)
11.45 a.m:	Demo session for preparing sample TEM using Ion Slicer (G 2)
12:45 pm:	Lunch break
2:00 pm:	Demo session for preparing sample TEM using FIB
5.00 pm:	End

The transmission electron microscope (TEM) is a very powerful instrument for material science. A high energy beam of electrons is penetrate through a very thin sample, and the interactions between the electrons and the atoms can be used to observe features such as the crystal structure and features in the structure like lattice plane, dislocations and grain boundaries. Elemental analysis can also be performed simultaneously. TEM can be used to study the growth of layers, elemental composition and defects in crystalline materials. High resolution TEM can be used to observe the atomic arrangement, dislocation and vacancies in nanomaterial. Sample preparation in TEM can be a complex procedure. TEM specimens are required to be at most hundreds of nanometers thick. High quality samples will have a thickness that is comparable to the mean free path of the electrons that travel through the samples, which may be only a few tens of nanometers. Preparation of TEM specimens is specific to the material under analysis and the desired information to obtain from the specimen. As such, a few standard techniques have been used for the preparation of the required thin specimens.

WHO SHOULD ATTEND?

- Researchers, engineers, technicians, laboratory assistants and students who works and study on electron microscope, nanostructure, elements and materials characteristics.
- **Compulsory** for those who want to run analysis using TEM at UIRL.

REGISTRATION FEE:

10th JANUARY 2017 (TUESDAY)

Public University Student & Staff: RM150.00
Industry: RM300.00

11th JANUARY 2017 (WEDNESDAY) LIMITED SEAT!!!

Public University Student & Staff: RM150.00
Industry: RM300.00

FULL PROGRAM

Public University Student & Staff: RM300.00
Industry: RM600.00

FOR MORE DETAILS:

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VENUE:

10/01/2017 – Bilik Seminar Magic-X, T03
11/01/20167– Makmal TEM 200KV, T03