Lab Tour Course-B

Time (tentative)	Bus No.2	Bus No.1	
8:30	**Depart from Kyoto Station**		
	Bus		
9:15	**Uji campus, Kyoto University**		Accompanying persons
	ICR	**IAE**	**Manpukuji Temple**
10:05	**IAE**	**ICR**	
10:45	Bus		
11:00	**Gekkeikan Ohkura Sake Museum**		
12:00	Bus		
12:15	**Lunch at Café Restaurant "Kihada" in Uji campus**		
13:15	Bus		
13:30	**Byodo-in Temple**		
14:30	Bus		
15:30	**Suita campus, Osaka University**		Accompanying persons
	RCNP	**ISIR**	**National Musium of Ethnology (by request)**
16:10	Walk		
16:20	**ISIR**	**RCNP**	
17:00	Bus		
17:30	**Osaka Airport(Itami Airport)**		by request
	Bus		
18:30	Kyoto Station		
18:45	Shijo-Karasuma		
18:55	Kawaramachi-Oike		
19:15	Arrive at KICC		by request

Outline of the Lab Tour Course B

In course B, we first visit two accelerator laboratories of Institute for Chemical Research (ICR) and Institute of Advanced Energy (IAE) at Uji-campus of Kyoto University located in Uji-city.

Beam Science Lab at ICR has an ion storage and cooler ring (S-LSR) combined with 7 MeV proton linac or 40 keV Magnesium ion source used for electron beam cooling and laser cooling, respectively and electron facility composed of an 100 MeV linac and 300 MeV storage ring (KSR). (http://wwwal.kuicr.kyoto-u.ac.jp/~souda/ipac10/). With S-LSR, one dimensional ordering of 7 MeV proton beam has been demonstrated for the first time in 2007 and multidimensional laser cooling is now underway. KSR has demonstrated the capability to investigate the inner structure of nucleus trapped in a ring by its scattering with the circulating electron beam by collaboration with RIKEN.

In the Institute of Advanced Energy, an MIR-FEL facility, KU-FEL(Kyoto University Free electron laser, http://wonda.iae.kyoto-u.ac.jp/index-e.html), has been constructed for application to energy science. The KU-FEL system consists of an S-band 4.5-cell thermionic RF gun driven by a 10 MW klystron, a 3 m accelerator tube driven by a 20 MW klystron, a beam transport system, and a Halbach type undulator of 1.6 m.

We have prepared an option for accompanying persons to visit Mampuku-ji Temple (http://www.kiis.or.jp/kansaida/uji/uji04-e.html) during the conference attendants' lab tour. Among many temples in Kyoto, Mampuku-ji is famous for its old Chinese-style building.

After the laboratory tour at Kyoto University, we visit Byodo-in Temple (http://www.kiis.or.jp/kansaida/uji/uji01-e.html), which is one of the UNESCO world heritage in Kyoto and its main building, Houou-do is depicted on the reverse side of Japanese 10 Yen coin.

After having lunch at the Cafe-Restaurant Kihada in Uji campus, we have a short visit to Gekkeikan Okura Sake Museum. This museum is located at Fushimi, Japanese famous sake (Japanese alcohol) producing region and shows the typical production process of Japanese Sake also providing the capability of sample tasting.

(http://www.gekkeikan.co.jp/english/products/museum/index.html)

At Suita-campus of Osaka University, we visit cyclotron facilities at Research Center for Nuclear Physics(RCNP) and linac facilities at Institute of Science and Industrial Research(ISIR).

At the RCNP cyclotron facilities, a variable-energy multi-particle ring cyclotron with a K number of 400 MeV provides ultrahigh quality beams with an energy spread $\Delta E/E$ of an order of 10^{-4}, which is achieved by using a flat-top acceleration system and a cooling-water temperature-control system for the main magnets of the ring cyclotron and a K140 injector AVF cyclotron. The ultrahigh quality beams are utilized for highly precise nuclear physics experiments using two spectrometers, “Grand Raiden,” with an energy resolution of $\Delta E/E = 5 \times 10^{-5}$, and “Large Acceptance Spectrometer (LAS)” with a solid angle of 20 msr. The RCNP cyclotron facilities are also characterized by the uniqueness of experimental apparatuses; a 100 m long tunnel for neutron TOF measurement, an Ultra Cold Neutron (UCN) source, a RI beam line and a high intensity muon source(under construction).

At the Research Laboratory for Quantum Beam Science (RLQBS), electron beams from a 40 MeV L-band linac, a 150 MeV S-band linac and 40 MeV RF-gun linac are available for the research in environmental science, new energy technology and advanced medical technology fields. The L-band linac consists of the thermionic electron gun, the three-stage SHB system comprising two 108 MHz and one 216 MHz cavities, the pre-buncher and the buncher of the 1.3 GHz travelling-wave type, and the 3 m-long 1.3 GHz travelling-wave accelerating structure. The linac can produce a high-intensity single-bunch electron beam with charge up to 91 nC/bunch. The high-brightness electron beam is mainly used for researches on the transient phenomena in the temporal region from nanoseconds to sub-picoseconds by means of laser-synchronized pulse radiolysis, and development of a Terahertz free-electron laser (FEL). The RF-gun linac is constructed in 2003 with a 1.6-cell S-band photocathode RF electron gun, a TW linear accelerator and a magnetic bunch compressor. The low-emittance and picosecond-bunch electron beam is generated from the RF gun, accelerated by the linac up to 40 MeV with energy modulation, and finally compressed into femtosecond by rotating the longitudinal bunch phase space in magnetic field. A 98-femtosecond single bunch electron beam was generated successfully in 2004. The linac initiated the first experimental study of ultrafast reactions and structural dynamics in materials on the femtosecond time scale.