

## **Report on completion of the short-stay study abroad program in FY 2008**

School and Dept. : School of High Energy Physics / Dept. of Accelerator Science

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Destination country : USA

Receiving univ./institute : Cornell University

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## **Report by Puneet JAIN on completion of the short-stay study abroad program in FY 2008**

I am a 2<sup>nd</sup> year doctoral candidate working at KEK, Tsukuba under the guidance of Professor Shin-ichi Kurokawa. At KEK, I work on the e-cloud generation and related instabilities. The scope of my work is mainly the simulation work and understand the e-cloud phenomenon together with the aid of an ongoing experiment being performed by other group at KEK. To learn more about the experimental program, I went to the Cornell University, Ithaca, NY, USA for nearly two months.

At Cornell, they have a test facility called CESR(Cornell Electron Storage Ring). This is a relatively smaller machine as compared to one in KEK and has a tie up with KEK to exchange ideas and understand the abovesaid phenomenon in depth. I learnt about Retarding Field Analysers (RFA), another tool to understand the e-cloud generation. Discussions with my local host Professor G. Dugan immensely helped me to understand the complex phenomenon. The detailed interactions with graduate students, staff members and visiting faculties from different institutes helped me to modify my simulation stuff, which could be desired by the accelerator community. I need not take any formal classes or course work as all the discussion were held in Wilson Lab itself. My stay at Cornell was very productive and the learning experience at CESR helped me for my current assignment in KEK. It also opened future directions for my work.

CESR is a facility housed in Wilson Laboratory at Cornell University. The faculty, staff members and the students are from Department of Physics. Besides the study on e-cloud, CESR machine caters to a world class light source – CHESS, a promising project on Energy Recovery Linac (ERL) and High Energy Physics experiments at CLEO detector.

Like KEK, CESR is also a known international facility for accelerator researchers and so I knew about Cornell University. The medium of instruction/discussion at Cornell is english. My education had been in english medium since childhood and I had absolutely no difficulties with the language during my stay in the US. I did not face any problem to obtain US visa. The secretary of the Director, Wilson Laboratory arranged my accommodation in a nearby apartment on a sharing basis. It had good facilities and the rent was also quite affordable. The fellowship provided by SOKENDAI was sufficient for my comfortable stay.

My advice to future applicants is two fold – a) Spoken english should be reasonably good, and b) Plan ahead about stay before leaving for that institute/laboratory. It can reduce hurdle of searching a cheap accommodation.

Finally, I express my sincere thanks to SOKENDAI and my supervisor for allowing me to visit Cornell University and providing me full financial support.

*(Puneet Jain)*

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