

**Academic Year 2011-2012 Yuan Ze University
Department of Industrial Engineering and Management
Overseas Academic Visiting Program Report**

**Where the World Meets IEM, Yuan Ze University of Taiwan_
Chiba University, Department of Industrial Design, Product R&D Center
of Kanebo, and National Center of Neurology and Psychiatry (NCNP)**

There are three place we had visited in Japan, including a campus, an enterprise, and a research center. They are Faculty of Engineering in Chiba University, Product Research and Development Center of Kanebo, and National Center of Neurology and Psychiatry.

The first place where we visited on 29th March is Chiba University. We visited their Design department of Faculty of Engineering. The first professor we met is professor Shimomura. His research area is Humanomics. Owing to his medical background, he studies in Ergonomic, Biomechanics and Physiological Anthropology. He showed that an apparatus they invented which can observe EMG was used to improve pen's structure and a medical device which has a small scissor on the tail was used to do operations. They also improve a cane which can reduce the pressure of human's hand. They have been inventing an auto seat with an auto company which can reduce some positions which are easier to produce heat on human's body in order to reduce the energy which people use the auto conditioners of. The professor Shimomura now has researched which light can make people work with energy.

The second professor we met is professor Ono and his research area is Design Management. He introduced the origin of their department and their alumni's achievements. He told us that when other's design focused on aesthetics, their design had focused on human's need. He showed us a video displaying by Timeline and it was different from traditional video display. He pointed an important thing that why the probability of their alumni's success is higher than others, because they train their students like a company trains employees. Before they graduate, they has exerted to

do their portfolio in order to apply for jobs. Professor Ono's graduate students reported their research which is related to plant factory and their service, for instance, the factory sent a plant to a customer and a recipe about this plant attached with the plant.

This experience reminded me of a speech on Practical Operations of Industrial Engineering Class. The speaker who is an industrial designer said that to be a successful industrial designer, the factor of success is observation. To observation what people need is the center of design. They have the same idea by coincidence and I think that's why they all have great achievements on their professional area. This visit makes me learn that to design something is not only to think about its use and appearance but also to be in user's shoes.



Figure 1. Professor Shimomura showed the medical device.

The second place where we visited on 30th March is Kanebo. We visited their Product Research and Development Center at Odawara factory. The factory in Odawara is the main factory of cosmetic production.

At first, they took us to look around the environment and they emphasize the reason why they chose this place is the natural environment can keep their employees cheerful and water quality. We visited their production and package facilities in the factory. They also introduced the production of emulsion and its facilities. Then, we

visited their research center focusing on human's skin. Skin can be recover by DNA, but it's efficiently would be lower and lower with ages and their researchers considered a new material to control dark spots, wrinkles and so on to prolong youth. The fragrance development research thousands of smells. The researchers analyze other brands' perfumes and find what the influences of fragrance for human. For example, they showed that Osmanthus can control human's appetite and Sakura can make human relax.

This experiment made me know that the production of cosmetics is very strict, because it has to consider its effects, sanitary and packing. A product before sales has to be tested by subject tests and object tests. Different climates make different skin influences, so researchers have to find different cosmetic formulas for different areas. How a complicated work is !



Figure 2 The production facilities of the Kanebo factory

The last place where we visited is National Center of Neurology and Psychiatry. We visited their Depart of Psychophysiology. At first, he took us to a room which they had done an experiment about the relationship between sleep time and endocrine. Experimenters and subjects couldn't leave this room in two weeks. There were a living room, six small rooms, a kitchen and a bathroom with dim lighting. They also only could play black-and-white game or read books. There was a model wearing detection devices which detected breath, blood flow, electrostatography, etc. He showed us the

polysomnography about this experiment and professor Chou told us this data is very well. Then, we learn from the research posters. A poster is about that human from children to adults has different disease and sleep-disorder. The reason why disease and sleep-disorder form may be congenital or acquired. Children's brains don't develop maturely, so they would do something we don't understand. To make children has an appropriate growing conditions, so Japanese mother almost don't work.

After this experience, I learn that every experiment not only spends much time but also needs professional subjects to test and there are many report about sleep shows that most modern people have sleep-disorder. Besides, lights can influence human's spirit and it also has a lot to explore, for example, in Chiba university, professor Shimomura now has researched which light can make people work with energy and in NSNP, they let subjects under lights and observe how the light influence them. It lets us know light affects our lives a lot.

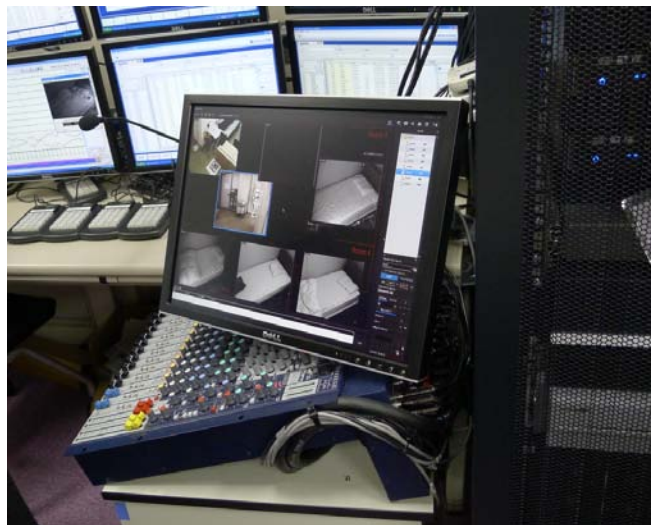


Figure 3 The monitor to observe the experiment room.