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Environment and energy conservation technology influenced by chemistry education of interdisciplinary engineering students

Editorial Note

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Chemistry has "significant" potential for preventing energy and environment conservation. In human education based on chemistry and materials, research collaboration between Nagaoka and Guanajuato could strongly contribute resources through a decade. That is a leading cause by both university people and their scientists who have concluded in a new study. Our purposes, which also relate why people are at high risk for energy and environment conservation by growing economy and industry around world, therefore, is to effect human growing in both countries through chemistry education. They are important things to apply our chemistry skill and knowledge on the conservation. Especially, our relationship has focused that educational approach to Mexican and Japanese students through exchange program and research projects on developing new materials. For example, every year, Japanese bachelor students visited and stayed in Guanajuato for about 5 months to see and touch different culture and also Mexican students stayed in Nagaoka to see and touch frontier technology and applied them to their research in Japan. Through these programs, each country students could find that they had not seen in their life. We believe that Japan could strongly support the quality increments of the chemical knowledge and skill of the Mexican students by chemistry research. Thus, increasing educational quality and standards as well as generating an environment for friendly competition among Japanese and the foreign students are our purposes for this interdisciplinary research program in chemistry field. Up to now, over 10 students faced several functional polymers in my laboratory for the purpose of water treatment and energy conservation. For example, colleagues note polymeric membranes, which are synthetic films, could apply for perm selective materials in separation processes. Sometimes they are practically useful for conservation and water environment. Since water has huge significance for likely signs for our life, underlying water's importance is that there is no known life without water. Such thin barrier made of polymeric membranes could totally perform like magic because just permeation through thin membrane can purify wastewater. For alcohol/water separation polymeric thin films also are available and we are applying this technique for waste tequila as bio-energy conservation.

Mexican and Japanese students enjoying Japanese food. Photo provided by Adrian Zamorategui

It is a tribute to the responsibility felt by us to strongly contribute energy and environment conservation with developing new technologies. For the world safer and less hazardous place our corporation can set out to design replacement technology possessing drastically reduced a risk and made by a more environmentally benign process.

Dr Kobayashi's Research group at Nagaoka University of Technology. Mexican students: Addiel Venegas (formerly UG), Josue Guzman (formerly ITESM), Karla Yovar (UACJ JMUCTE), Ignacio Varela (ITESM), Alfredo Valenzuela (UG-JMUCTE)

Students from various Countries. Guanajuato México, Venezuela, Germany and Japan enjoying meeting at Nagaoka (NUT). Photo provided by Motoyuki Sato taken at the vicinity of a building where took place a sumo tournement.