

水環境国際招聘賞（いであ招聘賞） (JSWE-IDEA Water Environment International Exchange Award) 授賞に関して

本会では、水環境分野の国際交流・国際協力の促進を目的として、いであ株式会社からのご出捐により、水環境国際招聘賞と水環境国際活動賞を設けております。水環境国際招聘賞は本会年会で研究発表を行う海外在住外国人会員に対して、来日費用等の助成を行う制度です。第47回年会には韓国と中国から各1名を招聘し、研究発表を行っていただきました。発表を終えて帰国された受賞者に参加報告を書いていただきましたので、ご紹介します。

なお、今年度の水環境国際招聘賞の募集案内は夏頃に本誌会告に掲載する予定です。

(派遣・招聘委員会)

Upgraded Cooperation between Korea and Japan by Overseas Member Invitation Program of JSWE

Vice President, Korea Society of Environmental Engineers
Professor, Chungbuk National University
大韓環境工學會 副會長, (忠北大學校 教授,)
河 成 龍 (Sung-Ryong Ha)

On basis of the recommendation by Korean society of environmental engineers (KSEE) and the overseas member invitation program by Japan society on water and environment (JSWE), I took an opportunity to participate in the 47th annual conference of JSWE held at Osaka Institute of Technology from 11th to 13th of March, 2013. I gave a lecture on the innovation of water quality management by coupling urban planning with Low Impact Development (LID) scheme in Korea. I would like to express my sincere thankfulness to everyone that it truly is an honor to win the JSWE-IDEA Water Environment International Exchange Award.

Throughout the lecture, I summarized Korea's national experience in improving the water quality of public water body. For last three decades, our continuous effort in this field has achieved a remarkable result in realizing 90% of national sewage coverage ratio. Moreover, public concerns shifted to the water quality conservation of public water body—such as the natural river and other water resources—from the quality standard mandated at the end of pipe.

Based on the Korean Total Maximum Daily Loads (KTMDL) Act, province governments and local municipalities in the watersheds of three major rivers of Korea—Nakdong, Keum and Youngsan—developed the total load management plan related to water quality pollution. It turned out to be an impactful plan that meets the water quality standard and TMDL pollution load mandated by the Ministry of Environment. The effectiveness of KTMDL was clearly demonstrated by

improving over 88% of water quality.

However, despite the good achievement of public water quality management policies, diffuse pollution (non-point sources) issues have been left behind the governmental regulation of KTMDL as an unresolved problem. Regarding the issue of diffuse pollution, we should design and implement a number of interdisciplinary approaches in order to control water quality. One of the most important sources of diffuse pollution is a land development materialized by establishing an urban/nation planning. Best Management Practices (BMPs) have been applied to manage diffuse pollution in the field of water quality schemes, and are expected to provide effective roles in a low impact development (LID) application to land development projects. In my lecture, a quantitative scheme to couple urban planning with LID was introduced including examples of its implementation in new town projects in Korea.

About 30 years ago, I was an international student enrolled in the doctoral course of Osaka University and advisee of Professor Sueishi Tomotaro in the department of environmental engineering. My professional dream in the water environmental field was well-honed by committed support of my adviser and unique characteristic of Japanese academic environment and culture. The Journal of JSWE definitely gave me an opportunity to broaden the range of my knowledge upon water and environmental fields.

My winning of this award has a significant meaning to many of us—with no doubt, we have made a step

closer to a long lasting friendship of two societies, Korea and Japan. Once again, I would like to share this joy and appreciation with all of members of JSWE for their cooperation and initiation to upgrade the

relationship between Japan and Korea. I believe that the cooperation between KSEE and JSWE will be sustainable and upgradable through mutual efforts in future.

Great Help to a Young Researcher from JSWE

Graduate School at Shenzhen, Tsinghua University

清华大学深圳研究生院

吴 乾 元 (Qian-Yuan Wu)

When I was a Ph.D. candidate, I hoped to attend the Annual Conference of Japan Society on Water Environment because that the conference is very important and famous in the field of environment protection. After 7 years, I have the honor to obtain the JSWE-IDEA Water Environment International Exchange Award and attend the 47th Annual Conference of JSWE with the recommendation of Chinese Society of Environmental Science (CSES) and support from overseas member invitation program of JSWE. I am grateful for the great help from JSWE and CSES.

JSWE have done lots of work on promoting cooperation between Chinese and Japanese researchers. In China, I have attended China-Japan Symposium on Water Environment held by CSES and JSWE several times and thusly make friends with many Japanese researchers. I get much useful information and improve my research from JSWE and Japanese friends. Therefore, I become an overseas member of JSWE after I finished my postdoctoral work and got a faculty position. I read the every issue of JSWE' s journal and find lots of helpful information which improve my research.

My research field is technologies to assess and guard reclaimed water safety. Reclaimed water is an attractive method to solve the water shortage problem. However, there are many types of toxic and harmful pollutants in untreated wastewater. It is needed to control the risks induced by pollutants during wastewater reclamation. Therefore, I optimize chemical technologies (ozonation and chlorination etc.) to control dissolved organic matter and its potential risks in reclaimed water including endocrine disruption effect, genotoxicity, and disinfection by-products formation.

I introduced the work concerning toxicity removal during wastewater reclamation processes in the 47th annual conference. Wastewater before treatment contains many types of genotoxic chemicals including polycyclic aromatic hydrocarbons. Furthermore, reclaimed water treatment such as chlorine disinfection can also form some genotoxic pollutants

including trihalomethanes, haloacetic acids, and *N*-nitrosodimethylamine. Since the toxic chemicals are very complex, only measuring and controlling some typical chemicals are not sufficient for reducing the risk of reclaimed water. It is needed to evaluate and remove genotoxicity of wastewater effluent. In the presentation, the genotoxicity in the wastewater secondary effluent samples and the key fractions associated with genotoxicity in the samples were introduced. And the changes of genotoxicity and typical fractions during wastewater reclamation processes, especially chlorine disinfection were also investigated.

It is my third time to visit Japan and I keep very good friendships with many Japanese researchers from Kyoto, Yokohama, Osaka, and Tsukuba. During the 47th annual conference, I not only introduced my work but also attended many interesting presentations given by Japanese researchers and meet lots of good friends who are the experts in the fields of toxicology, environmental chemistry, and environmental engineering. During the 3 days, we exchanged the information and new ideas about our research and look forward to further cooperation in the future. It should be noted that the exhibition of water treatment equipments, materials and reagents is very interesting. Many novel products including membrane, and catalyzer made a deep impression on me. From the exhibition, I found some interesting products and hope to use them in my study in the future. I believed that the cooperation between researchers and companies on technologies and equipments development plays an important role in water quality improvement.

How time flies! The time of 47th annual conference of JSWE was very short. When I listened to the final presentation, I found that it is time to say goodbye. After the conference, I will go on the discussion and cooperation with Japanese friends. I believe that young researchers' friendships will promote the cooperation between China and Japan in water environment field. I really appreciate the great help from JSWE. I look forward to attending the annual conference of JSWE in the future!