

# 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48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)

## IT-BT-ET based Technologies for Water Management

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First and foremost, I would like to thank to the Japan Society on Water Environment (JSWE) for the JSWE-IDEA Water Environment International Exchange Award that has been awarded to me in the 48<sup>th</sup> Annual Conference of JSWE held at Tohoku University from 17<sup>th</sup> to 19<sup>th</sup> of March, 2014. I have been participating in JSWE Annual Conference for almost 10 years through JSWE special invitation to Korean Society of Environment Engineers (KSEE).

In my presentation, we have developed a new pH-based approach to effectively determine the end point of breakpoint chlorination titration for water samples even with a low ammonia concentration. Based on this approach, we have suggested an automatic control strategy for the chlorination process in the water or wastewater treatment plants.

One of the presentations made by my students at the conference was regarding our newly developed compact water quality analyzer system. In the presentation, she demonstrated the superiority of our system by comparing its performance with conventional water quality analyzer systems. The software sensor technology to predict the TN and TP concentrations has been implemented in our newly developed system and it is able to predict them within 5 min. This technology not only succeeds to shorten the analysis time significantly but significantly reduces, if not eliminates, the use of chemicals or reagent. Our analyzer also has been applied to control a sequencing

batch reactor (SBR) along with a process model. Based on the data from the on-line water quality analyzers installed before, inside, and after the SBR, the process model determines optimal duration of each operational phase of the reactor.  $\text{NH}_4^+$ ,  $\text{NO}_3^-$ , and  $\text{PO}_4^{3-}$  were continuously monitored to automatically calibrate the model and to better control the SBR.

The last study presented at the conference was regarding a smartphone application for the public to report any pollution event happening in a stream. In this study, we emphasized the role of public that report any pollution event occurring in a stream.

To sum up all of my research work, I believe the effectiveness of IT-BT-ET based technology in managing water related issues. Integration of various different technologies is crucial. I consider the award that I received as a proof of the mutual effort and relationship between Korea and Japan in the field of water research. Therefore, I greatly hope that more young researchers from Asia (especially developed countries) participate this WATER conference and collaborate with us.

Once again I would like to express my hearty appreciation to the JSWE members, conference committees and fellow researchers for nominating and choosing me as the recipient of this prestigious award at the 48<sup>th</sup> Annual Conference of JSWE. I am looking forward to attend the JSWE conference or event again in the future.