

京都大学教育研究振興財団助成事業
成 果 報 告 書

平成27年8月17日

公益財団法人京都大学教育研究振興財団
会 長 辻 井 昭 雄 様

所属部局・研究科: 工学研究科

職 名・学 年: 博士後期課程3年

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助 成 の 種 類	平成27年度・若手研究者在外研究支援・国際研究集会発表助成		
研 究 集 会 名	36th IAHR WORLD CONGRESS 第36回国際水圏環境工学会世界大会		
発 表 題 目	Study of Breach Characteristics and Scour Pattern for Overtopping Induced River Dyke Breach		
開 催 場 所	デルフト・デンハーグ(オランダ)		
渡 航 期 間	平成27年6月28日 ~ 平成27年7月5日		
成 果 の 概 要	タイトルは「成果の概要／報告者名」として、A4版2000字程度・和文で作成し、添付して 下さい。「成果の概要」以外に添付する資料 <input type="checkbox"/> 無 <input type="checkbox"/> 有()		
会 計 報 告	交付を受けた助成金額	350,000円	
	使用した助成金額	350,000円	
	返納すべき助成金額	0円	
	助成金の使途内訳	学会参加費	46,359円
		オランダビザ申請料	38,520円
		往復航空券代	144,240円
		関空ー京都往復交通費	7,200円
		オランダ国内交通費	7,580円
宿泊料(6日間)	78,101円		
日当(8日間)	28,000円		
当財団の助成に ついで	(今回の助成に対する感想、今後の助成に望むこと等お書き下さい。助成事業の参考にさせていただきます。)		

Report: 36th IAHR Congress Visit

Information about the event

Programme: 36th International Association for Hydro-Environment Engineering and Research (IAHR) congress

Place: The Hague, The Netherlands

Congress date: 28th June to 3rd July

The International Association for Hydro-Environment Engineering and Research (IAHR), founded in 1935, is a worldwide independent organisation of engineers and water specialists working in fields related to the hydro-environmental sciences and their practical application. Activities range from river and maritime hydraulics to water resources development and eco-hydraulics, through to ice engineering, hydro-informatics and continuing education and training. IAHR stimulates and promotes both research and its application, and by so doing strives to contribute to sustainable development, the optimisation of world water resources management and industrial flow processes.

The 36th IAHR World Congress provided special emphasis on cross-cutting themes related to Deltas of the Future, looking at what happens upstream, linking hydro-environment research to engineering practice, and reaching out to the developing world. The themes of this congress are managing deltas, Hydro-Environment, Sediment management and morphodynamics, Water Engineering, Flood risk management and adaptation, Water resources and hydro informatics and Extreme events, natural variability and climate change. Nearly 2000 participants were attended and around 1500 papers (oral and poster) were presented. My oral presentation included my Ph.D. research topics related to river dyke breaching due to overtopping flow. The date of my presentation is 1st July 2015.

In this congress, I presented the numerical and experimental results related to investigation of the dynamic lateral widening process, breach characteristics and scour process. The influence of sediment size of dyke materials on the breach process were discussed based on the results of the laboratory experiments, and a numerical model was developed to simulate the breach process of dykes by flow overtopping. The developed model introduced the effects of infiltration process and resisting shear stress due to suction of unsaturated sediment as a new expression. To simulate the dyke breach phenomenon, the numerical model consisted of different modules: two-dimensional shallow-water flow, seepage flow, sediment transport using a deterministic model, and collapse model. The reproducibility of the developed model was tested using experimental data on dyke breach phenomena. The numerical results are well agreed with the results of the sandy river dyke experiments.

Apart from presentation, I also attended the half day technical excursion to **The impressive Maeslant Storm Surge Barrier**. The excursion took us by bus to Flood Proof Holland, the unique test and demonstration facility for innovative temporary flood defenses and flood prevention measures in Delft. We were able to see some of the latest innovations during a real life flood simulation. At Flood Proof Holland, Dutch entrepreneurs were cooperating together with public parties, staff and students of knowledge institutes (Delft University of Technology, etc) to find innovative and practical solutions that offer protection against the rising water. The facility was also used for testing and demonstration of other water management related innovations as well. Over the last year, many national and international delegations and film crews (for example BBC and Discovery Channel) have visited the site.

Finally, in the congress, I had a very good discussion with the experts of my field and the future aspects of my topics. Some of them gave insightful comments to improve the work. I also attended the paper presentations of fellow professionals related to my topics from where I got much information regarding improvement of results of my topics. I attended a variety of presentations and learnt more about areas of my discipline that were not researched in home department. Many presentations inspired me with new ideas. All these experiences helped feel as though I am an active, knowledgeable, and valuable member of my professional field.

Some Snaps during the programme:

