

Event Report

8th IPA Press-in Engineering Seminar in Kochi 2015



Date:	14 Jul 2015
Time:	13:00 to 17:00
Place:	Kochi, Japan
Venue:	Sunpia Chres, Rainbow Hall
Organizer:	IPA Research Committee
Supporter:	Kochi Prefecture , Kochi City , Japan Press-in Association , Tun Hussein Onn University of Malaysia , Kochi University of Technology , Kochi National College of Technology , The Shikoku Bank, Ltd. , THE BANKOF KOCHII, LTD. , The Kochi Shimbun , GIKEN LTD.
Programme:	1.Lecture "Tsunami measures in Kochi based on lessons learned from the Great East Japan Disaster" Dr. Masahiko Isobe/ President of Kochi University of Technology 2.Site tour ①Bird's eye view of Kochi from Godai-san(mountain) ②Site tour to Kochi shoreline levee reinforcement project ③Study & observation of Tsunami Simulator
Attendees:	(Lecture) 310 (Site tour) 170

The 8th IPA Press-in Engineering Seminar was held on Tuesday 14th July, 2015 in Kochi. This year's seminar was divided into two parts. In Part 1, a lecture was given by Dr. Masahiko Isobe, the president of the Kochi University of Technology. In Part 2, the site tour to the Godai mountain lookout platform that commanded a panoramic view of the Kochi city was organized to overview the tsunami measures against the feared Nankai Trough Great Earthquake, implemented by the Kochi prefecture as the leading prefecture in disaster prevention. Further, the site tour included a visit to the "Implant Levee" being developed at a high pace along the Kochi coast by the Ministry of Land, Infrastructure, Transport and

Tourism (MLIT), and a demonstration of the "Tsunami Simulator" newly constructed in the research building of GIKEN. All in all, the seminar turned out to be academic and intense.

Three-hundred and ten (310) people from 11 countries/areas, over the seating capacity of the venue, participated in the lecture, while 170 people joined the site and research facilities. A unique program with a fusion of theory and practice only IPA could offer helped the seminar participants to better understand the Press-in technology that has been taking an active role in disaster prevention front with its superiority.



**Prof. Malcolm Bolton
(IPA Chairman)**



**Mr. Akio Kitamura
(IPA Honorary President)**



**Moderator of Opening
Dr. Tadahiko Okumura
(Secretary General)**

In the lecture delivered first in the seminar by Dr. Isobe, there was an explanation for the entire collapse of the levees, when the back sides of the sea walls were detached and washed out by the Great East Japan Earthquake Disaster, the soils inside the levees were forced to flow out. In addition, since the damage on the levees was more intense where the coastal erosion was advanced, Dr. Isobe emphasized that it is important to build levees resilient against the overflow of tsunamis, and to maintain sand beaches in front of the levees.

With this in mind, Dr. Isobe continued to explain that it is possible to significantly reduce flooded areas and loss of human lives, not by simply increasing the levee heights but by building resilient levees with implant structure such as those being developed along the coast of the Kochi prefecture.

Furthermore, as a preventive measure against tsunamis in the Kochi port, he demonstrated a plan to prevent tsunami invasions and reduce flood depths by narrowing down the mouth and middle portions of the Urado bay with the use of fixed structures, together with the introduction of tsunami evacuation facility developments currently being facilitated along the coastal areas of the Kochi prefecture.

After the lecture, the participants moved on to the site and research facilities with 4 buses. They first visited the Godai mountain lookout platform where Mr. Kenji Honda, the General



**Dr. Masahiko Isobe
(President of Kochi University of
Technology)**



**Mr. Kenji Honda
(General Manager of the Kochi civil
engineering office of the Kochi
Prefecture)**

Manager of the Kochi civil engineering office of the Kochi prefecture, described the measures against tsunamis in Kochi prefecture to prepare for the feared Nankai Trough Great Earthquake, comparing the image documents incorporated from the disasters by the Nankai Earthquake in 1946 with those of the current city area.

The participants, while seated on the **buses, then observed an "Implant Levee" on the Kochi coast (levee improvement construction to reinforce existing levees by pressing-in steel tubular piles into them)** that had been introduced in the lecture by Dr. Isobe. The participants could look at the utmost front of the disaster prevention measure development, in **a sequential flow of "before, during, and after construction"**.

In the last part of the tour, they visited the Kochi corporate headquarter of GIKEN, and joined a demonstration of "the Tsunami Simulator" developed and installed in January 2015. In a wave resistant experiment against tsunami using 1:33 scale levee models, they saw a conventional levee overturned by tsunami and washed away by the persistent attack of waves, whereas they witnessed the implant structure tenaciously resist and stay there. The participants once again felt the tenacity of the implant structure.

After the completion of the seminar, they all came back to Sunpia Chres and participated in a customary social gathering. Following the opening address by Dr. Osamu Kusakabe, vice chairman of IPA, the president of the National Institute of Technology Ibaraki College and the professor emeritus of the Tokyo Institute of Technology, Professor Nguyen Thi Tuyet Trinh of the Hanoi University of Transport and Communications who had given a lecture at the 5th IPA International Workshop held in Viet Nam in 2014 proposed a toast.

In a peaceful atmosphere from the beginning to the end, the participants were treated with local food and drinks, and scenes of self-introductions and information exchanges were observed here and there. In the middle of the social gathering, gifts were exchanged among the members involved in the joint research program between University of Cambridge and GIKEN in its consecutive 22nd year to date. The students of University of Cambridge brought assorted **souvenirs from their native countries, whereas Kochi's famous coral cuffs and tie pins were presented from the GIKEN side.** Their smiling faces told that they were all very happy to receive heartfelt gifts from each other.

In addition, a customary harmonica play was offered by Mr. Hiroshi Kajikawa, the president of the Kajikawa Construction Co., Ltd. There was a big round of applause from everyone including researchers from different countries/areas, administrative people and industry people.

In the morning of the following Wednesday 15th July, 2015, two GIKEN's demonstration sites were visited mainly by young researchers and those from other countries/areas. At the Akaoka test field, the tour participants observed an "Implant Hat Bridge " where steel tubular piles were pressed in with a 6 m interval, and the bridge floor was speedily constructed by covering the tops of the piles with large lining plates, while they observed "a lateral loading test" at the Niidahama test field, that examined the resisting force of the steel pipe piles and their behaviours when the piles representing a levee here were subjected to a lateral load equivalent to the tsunami load.

After the site visits, they moved on to the Kochi corporate headquarter of GIKEN, and looked at the latest Press-in **machines and the portable bicycle parking system, "Mobile Eco Cycle"**. They attentively experienced a variety of examples of Press-in technology, and listened carefully to the explanations.

In the afternoon, the “4th International workshop for young researchers” was held with an objective of fostering young researchers nationally and internationally. In parallel to the workshop, the “3rd IPA International seminar for research works” was held, where researchers and engineers exchanged ideas to implement the research results in practice around the world. Researchers from different countries /areas made their presentations from each viewpoint, followed by active questions and answers.

We feel that we could deliver a very fruitful seminar this year, too. We would like to extend our gratitude to those who were cooperative and helped us organize the seminar.

Visit to the sites and research facilities



Photo taken at the Godai mountain lookout platform
(top: researchers' group; bottom: administrative people etc.)



“Implant Levee” currently under construction along the Kochi coast (Tobara site)



Demonstration of the “Tsunami Simulator” (Kochi corporate headquarter of GIKEN) Social gathering

Social gathering



Welcome address by
Prof. Osamu Kusakabe / IPA Vice
Chairman
(President of the National Institute of
Technology Ibaraki College,
Professor Emeritus of the Tokyo
Institute of Technology)



Cheers Utterance by
Prof. Nguyen Thi Tuyet Trinh
(University of
Transport&Communications)



Harmonica play by
Mr. Hiroshi Kajikawa
(Chairman of Kajikawa Construction
Co., LTD)



Gift exchange between University of Cambridge and GIKEN by the joint research members