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## **Activity Report 2012**

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### **Fiscal Year 2012 (1<sup>st</sup> Apr 2012 – 31<sup>st</sup> Mar 2013)**

#### **I. Research Activity**

1. “5<sup>th</sup> IPA Press-in Engineering Seminar” and “The 1st IPA Student Workshop” were held by the research committee to diffuse and enlighten the press-in technology.

1-1 The 5<sup>th</sup> IPA Press-in Engineering Seminar in Kochi, 9<sup>th</sup> July 2012, 13:30-17:15 at Sanpia Chres with approx. 210 attendees.

Lecture 1 "Joint study result of Cambridge University and Giken Seisakusho Co., Ltd."

Prof. Malcolm Bolton / Cambridge University / IPA Chairman

Mr. Yukihiro Ishihara / Giken Seisakusho Co., Ltd.

Lecture 2 "Squeezing Effects of Press-in Piling on Adjacent Underground Pipelines in Shanghai Soft Clays" Dr Yong Tan / Tongji University

Prof. Fang-Le Peng / Tongji University / IPA Vice Chairman

Lecture 3 "Preventive Strategy against Mega-Quake Disaster in Kochi Prefecture"

Prof. Kunio Ohtoshi / Kochi University

Lecture 4 "Implant Structure and Application Examples"

Mr. Hiroyuki Yasuoka / Giken Seisakusho Co., Ltd.

1-2 The 1<sup>st</sup> IPA Student Workshop, 10<sup>th</sup> July 2012, 8:30-11:00 at Head office, Giken Seisakusho Co., Ltd. with 23 attendees.

Lecture 1 “Additional vertical earth pressure on the underground structure due to the ground settlement.”

Mr. Masahiro Kunieda / The University of Tokyo

Lecture 2 “Application of the supercritical CO<sub>2</sub> model to the thermodynamics coupled analysis system and the assessment of the progression of carbonation.”

Mr. Hiroaki Minoo / The University of Tokyo

Lecture 3 “Experimental study on the behavior of pile foundations under cyclic horizontal loading.”

Ms. Mayumi Kawamori / Kanazawa University

Lecture 4 “The effect of the foundation width on the bearing capacity of spread foundations.”

Ms. Satomi Nagai / Kanazawa University

Lecture 5 “The stability of the trapdoor of Modified Cam-clay model evaluated by the upper-bound method.”

Ms. Rina Sasaki / Kanazawa University

Lecture 6 “The experimental and analytical study on static, dynamic and rapid loading tests of open-ended piles.”

Ms. Saki Sugiura / Kanazawa University

Lecture 7 “The model experiment on press-in resistance in multi-layered ground.”

Mr. Hirotohi Makabe / The University of Tokyo

## 2. 4<sup>th</sup> IPA Research Grant Award

### 2-1 Schedule of 4<sup>th</sup> IPA Research Grant Award

16<sup>th</sup> April Call for research proposals

15<sup>th</sup> July Submission deadline of proposals

13<sup>th</sup> September Evaluation by the award committee

14<sup>th</sup> September Announcement to winners with invitation to the Award ceremony

6<sup>th</sup>-7<sup>th</sup> December Award ceremony in Singapore

### ◇ 4th IPA Research Grant Award

- “Centrifuge modeling of Press-in piling installation”

Dr Jonathan A. Black / University of Sheffield

- “Time-dependent Behaviors of Press-in Piles in Shanghai Soft Clays”

Assoc. Prof. Yong Tan / Tongji University

- “Study on the collection and analysis of subsurface data using a pile being pressed-in, and correlation between performance of the pile.”

Dr Albert T. Yeung / University of Hong Kong

- “Effect of the thickness of the annular part of a pile tip to the installability and bearing capacity of steel pipe piles”

Prof. Yoshiaki Kikuchi / Tokyo University of Science

- “Fundamental Study on Reinforcement of Existent Fishery Wharf by Press-in Pile”

Prof. Kojiro Okabayashi / Kochi National College of Technology

- “Three-dimensional analysis of sand particles movement around tip of pile during press-in driving”

Assoc. Prof. Kohei Nagai / The University of Tokyo

- “Appraisal of Loading Rate Effects on Bearing Capacity of Pile”

Mr. Koji Watanabe / Obayashi Corporation

3. Research paper of the 3<sup>rd</sup> IPA Research Grant Award and presentations at 4<sup>th</sup> IPA International Workshop.
4. Research Committee was held "Report meetings of 4<sup>th</sup> IPA International Workshop"
  - Report meetings of 4<sup>th</sup> IPA International Workshop in Tokyo, 20<sup>th</sup> February 2013, 15:00-17:15 at IPC with 52 attendees and In Kochi, 25<sup>th</sup> February 2013, 15:00-17:15 at Dibasan Center with approx. 124 attendees.
5. Prepared for publishing "Press-in Engineering 2013"

## **II. International Workshop Activity**

1.
  - 6<sup>th</sup> to 9<sup>th</sup> November, Secretary General Dr. Okumura visited Singapore that prepared for 4<sup>th</sup> IPA International Workshop in Singapore to find construction site for field trip of press-in machine and widen the personal connections in Singapore.
  - Supporting for the corporate member was lecture about "ECO Park" in the Associated research Centers for the Urban Underground Space (ACUUS).
2. 5<sup>th</sup> and 7<sup>th</sup> December 2012, 4<sup>th</sup> IPA International Workshop was held in Singapore
  - 5<sup>th</sup> 18:00—20:00 ◇Reception
  - 6<sup>th</sup> Lecture 1 "Identifying ground interaction mechanisms for Press-in Piles"  
Prof. Malcolm Bolton, Dr Stuart Haigh / University of Cambridge
  - Lecture 2 "Lessons Learned from the 2011 Great East Japan Disaster and Measures against Future Earthquakes"  
Prof. Masanori Hamada / Waseda University
  - Lecture 3 "Applications of Press-in Piling in South-East Asia Countries"  
Dr. Goh Teik Lim / ATSUNEW GIKEN PTE. LTD.
  - Lecture 4 "Steel Sheet Piles Market in Asian"  
Mr. Kam Soon Phang / Oriental Sheet Piling Sdn.Bhd.
  - ◇Presentation of 3<sup>rd</sup> IPA Research Grant Award.
  - Lecture 5 "Fundamental experimental study on behaviours of piled foundations and surrounding dry sand ground subjected to cyclic horizontal loading"  
Prof. Tatsunori Matsumoto / Kanazawa University
  - Lecture 6 "Improving performance during installation of contiguous piles with the Gyropiler"  
Dr Andrew M McNamara / City University, London

Lecture 7 "Press-in resistance in multi-layer ground of sand, gravel, and cohesive soils observed in scaled models"

Assoc. Prof. Taro Uchimura / The University of Tokyo

7th 9 : 15-9 : 30 4<sup>th</sup> IPA Research Grant Award Ceremony.

Lecture 8 "PPT Technique to Obtain Subsurface Information"

Mr. Yukihiro Ishihara / Giken Seisakusho Co., Ltd.,

Lecture 9 "Assessment for Implant Structure based on Five Principles of Construction and Lessons Learned from Great East Japan Earthquake"

Dr. Yoshihiko Fukuchi / Giken Seisakusho Co., Ltd.,

Lecture 10 "The application of Crush Piling in Singapore and briefing of the press-in piling construction site"

Mr. David Liaw Wie Sein / Guan Chuan Engineering Construction Pte. Ltd.

Lecture 11 "Briefing of the Crush piling construction site"

Eng Lee Engineering Pte. Ltd.

13 : 00-16 : 00 ◇Field trip

Tour to press-in construction sites in Singapore.

3. Reviewed the proposed place for 5<sup>th</sup> IPA International Workshop

4. Activities to enhance industry-academia-government collaboration.

- 30<sup>th</sup> April to 4<sup>th</sup> May, Dr. Okumura (Secretary General) traveled to Taiwan to aid promotion to the corporate member and attended "SSMS2012"
- Strengthened a cooperative relationship with Tongji University, National University of Singapore and National Taiwan University.

### III. Committee Activity

1. The Ordinary General Assembly

The Ordinary General Assembly 2012 by internet held 4<sup>th</sup> April to 19<sup>th</sup> April 2012

The following bills were passed unanimously;

"Activity Report 2011" "Income and Expenditure Account 2011" "Activity Plan 2012"

"Income and Expenditure Budget 2012" "Election of Directors and Auditors"

2. Administrative Board

The Ordinary Administrative Board 2013 by internet held 4<sup>th</sup> April to 19<sup>th</sup> April 2012

The bills of "Revised Income and Expenditure Budget 2012" and "Report of New Membership 2012" were passed unanimously.

3. Public Relations Committee

Public Relations Committee actively pursue upgrading of homepage, improvement of presentation tools and setting up of members-only website.

#### **IV. Public Relations activities**

1. Renewal of the IPA Website.

1-1 Updated articles of activities and publicities in the IPA Website.

2. Lecture activities

2-1 12<sup>th</sup> June 2012, Secretary General Dr. Okumura explained the content of the IPA activity of “4<sup>th</sup> IPA International Workshop” in general assembly of JPA.

3. Press release

3-1 Releasing news, topics and results of researches to Newspapers and Magazines.

#### **V. Services for members**

1. Recruiting New Members

1-1 IPA Promotion Team from Giken Seisakusho Co., Ltd. supported to recruit new individual Members and Corporate Members.

25<sup>th</sup> March 2013:

Total of Individual member: 472      New member : 22

Total of Corporate member: 28      New member : 3

Total of Student member: 18