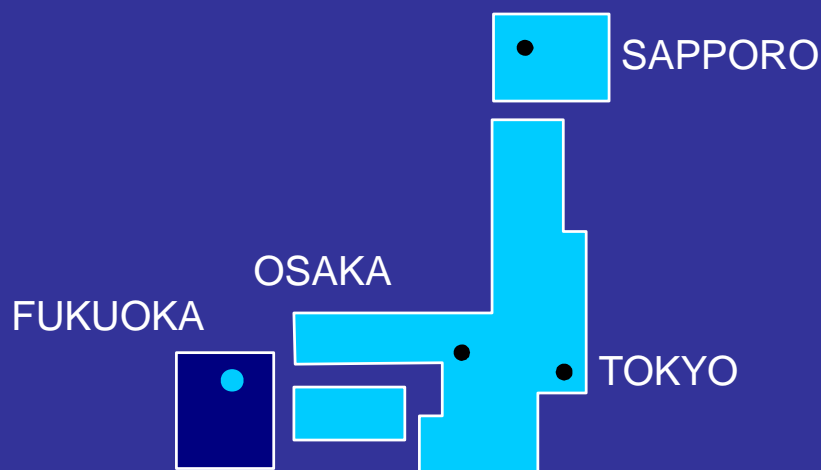


5th International symposium on Earth Reinforcement

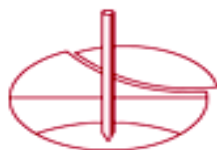
November 14-16, 2007
Fukuoka, Japan



IS Kyushu '07

– New Horizons in Earth Reinforcement –

<http://www.nda.ac.jp/cc/users/miyamiya/is-kyushu07/>



FOREWORD

Earth reinforcement techniques are used worldwide and offer proven solutions to a wide range of geotechnical engineering problems. The International Symposia on Earth Reinforcement (IS Kyushu) held in the city of Fukuoka, Japan have played a key role in disseminating developments in earth reinforcement starting in 1988 and again in 1992, 1996, and 2001. The important role of this series of symposia in promoting these technologies has been recognized by the strong support offered by the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) and the International Geosynthetics Society (IGS). While earth reinforcement technologies are well-established, new materials, construction techniques, design and analysis methods continue to be developed. Furthermore, reinforced earth structures are now being used more and more as expedient and economical solutions in response to earthquake, heavy rain, tsunami, and other natural disasters. Based on the success of previous IS Kyushu symposia and the continued importance of earth reinforcement technologies to geotechnical engineering, it was decided that the 5th International Symposium on Earth Reinforcement (IS Kyushu'07) is held on November 14-16, 2007 in Fukuoka, Japan. The theme subtitle of IS Kyushu'07 is "New Horizons in Earth Reinforcement". The main purpose of the symposium is to provide a forum for the exchange of technical information on current earth reinforcement techniques and design procedures around the world, introduce new reinforcement material, and present new and emerging applications with special emphasis on disaster mitigation and geoenvironmental issues. We encourage the new generation of engineers and researchers to attend this important technical event so that they are part of the future "New Horizons" in earth reinforcement.

A total of 175 abstracts from 32 countries were submitted to the conference; of these, 124 full papers have been accepted for publication in the conference proceedings and for presentation. Three distinguished engineers and researchers from around the world under the guidance of the Scientific Committee carefully reviewed each paper.

We believe that all the participants will benefit greatly from the presentations and discussions taking place during the symposium and cultivate friendships with each other.

Jun Otani

Chairperson of IS Kyushu'07

Organized by



The Japanese Geotechnical Society

Under the auspices of



The International Society for Soil Mechanics and Geotechnical Engineering

With support of



The International Geosynthetics Society



The Japan Society of Civil Engineers

CONFERENCE SECRETARIAT

IS Kyushu '07

Department of Civil and Environmental Engineering,

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Floor Layout of the Conference Center

Registration Desk (1F)

On your arrival, please go to registration desk, where you will receive proceedings, your name card, official receipt and registration documents. Here opens from 8:00-17:00 during symposium.

Secretariat (2F)

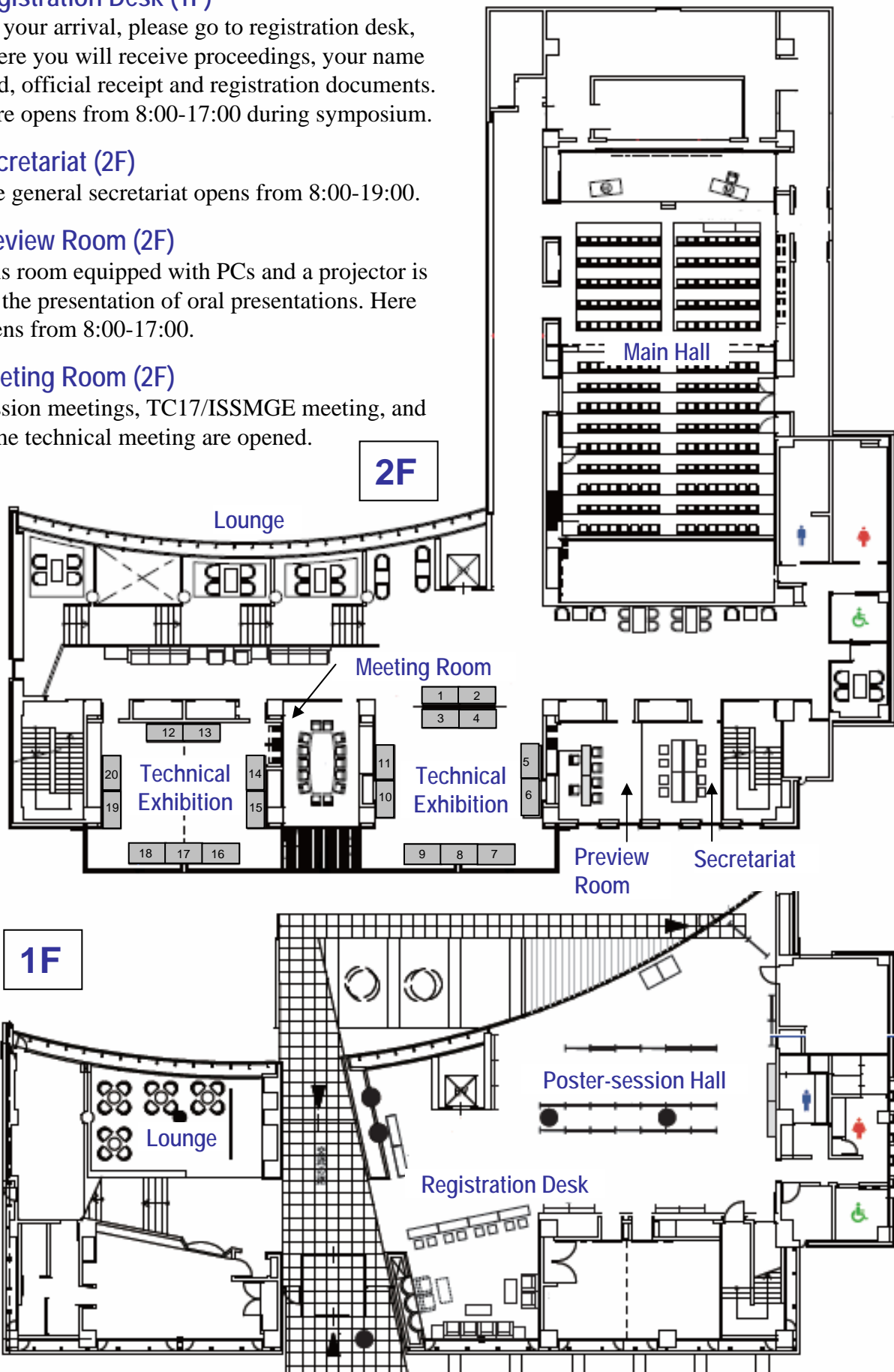
The general secretariat opens from 8:00-19:00.

Preview Room (2F)

This room equipped with PCs and a projector is for the presentation of oral presentations. Here opens from 8:00-17:00.

Meeting Room (2F)

Session meetings, TC17/ISSMGE meeting, and some technical meeting are opened.



Symposium Schedule

13 November (Tue.)	14 November (Wed.)	15 November (Thu.)	16 November (Fri.)
	Registration (8:00-)	Registration (8:00-)	Registration (8:00-)
	Opening Ceremony (8:30-9:00)	Special Lecture by J. Zornberg (09:00-10:00)	Keynote Lecture by D. Bergado (09:00-09:35)
	Special Lecture by H. Ochiai (9:00-10:00)	Short Break (10:00-10:20)	Short Break (09:35-09:40)
	Short Break (10:00-10:20)	IGS organizing session (10:20-12:00)	Keynote Lecture by Y. Mohri (9:40-10:15)
	ISSMGE/TC17 organizing session (10:20-12:00)	Lunch (12:00-13:00)	Short Break (10:15-10:30)
	Lunch (12:00-13:00)	Keynote Lecture by M. Davies (13:00-13:35)	TS-V "Geo-hazards and Mitigation" (10:30-12:10)
	Keynote Lecture by S. Allen (13:00-13:35)	Short Break (13:35-13:40)	Lunch (12:10-13:30)
	Short Break (13:35-13:40)	TS-III "Physical modeling" (13:40-15:20)	Discussion Session (13:30-15:50)
	TS-I "Materials and New Testing" (13:40-15:20)	Short Break (15:20-15:50)	Short Break (15:50-16:00)
	Short Break (15:20-15:50)	TS-IV "Combined technologies" (15:50-17:30)	Closing Ceremony (16:00-16:30)
	TS-II "Advanced numerical-modeling" (15:50-17:30)	Poster Session II (17:30-19:00, with drink)	Farewell Party (18:00-20:00)
Registration (16:00-19:00)	Poster Session I (17:30-19:00, with drink)		

Best Presentation Award

The excellent presentations will be selected at each session except for discussion session. The award will be presented, based on the decision of the Scientific Committee, taking into account the review grades of the papers and the quality of the presentation.

Prize for full attendance of past IS Kyushu

Attendance who had full attendance to past IS Kyushu, please contact to the registration desk. Organizing committee will confirm the records and give the prize to the person who have supported continuously this IS Kyushu from 1988.

Technical Exhibition

In the technical exhibition, 20 Japanese companies and organizations present their exhibitions.

Exhibition Opening: 10:00 on November 14.

Exhibition Open Hours: November 14 10:00-17:00.

November 15 9:00-17:00.

November 16 9:00-15:00.

List of the Exhibitors

- | | |
|--|--|
| 1 Ministry of Land, Infrastructure and Transport. Technical Office of Kyushu | 11 TOA GROUT KOGYO Co. Ltd. |
| 2 Kyushu Branch, West Nippon Expressway Company Limited | 12 TOKYO PRINTING INK MFG. CO.,LTD. |
| 3 ASHIMORI INDUSTRY CO.,LTD | 13 NITTOC CONSTRUCTION CO.,LTD |
| 4 OKASAN LIVIC CO., LTD. | 14 JDC Corporation |
| 5 Kikkouen Co. Ltd. | 15 High Grade Soil Consortium |
| 6 JIP Techno Science Corporation | 16 MAEDA KOSEN CO.,LTD. |
| 7 THE ASSOCIATION OF RRR CONSTRUCTION SYSTEM | 17 MARUTANI TESTING MACHINE CO., Ltd |
| 8 Technical Committee of Geotextile Reinforced Soil Structures | 18 Mitsui Chemicals Industrial Products, LTD |
| 9 TAIYOKOGYO CORPORATION | 19 Mitsubishi Chemical Functional Product Inc. |
| 10 Continuous Fiber Greening Association | 20 THE ASSOCIATION OF RADISH ANCHOR METHOD |

Wednesday, November 14

8:30 – 9:00 Opening Session

Prof. T. Mukunoki, Secretary General of the IS Kyushu '07, Chairperson of Opening session
Prof. J. Otani, Chairperson of the organizing committee
Prof. F. Tatsuoka, IGS President, JGS President

9:00 – 10:00 Special Lecture

Earth reinforcement technique as a role of new geotechnical solutions

– Memory of IS Kyushu –

Prof. Hidetoshi OCHIAI, Kyushu University, Japan;
Chairperson of organizing committee of IS Kyushu '92, '96 and '01.



Chairperson: Prof. J.P. Grouc (France)
Secretary: Dr. T. Kawamura (Japan)

10:20 – 12:00 ISSMGE/TC17 Organizing Session

“Recent case histories of earth reinforcement”

The TC17 have two working groups related to earth reinforcement, as Working Group F “Earth reinforcement in fill” and Working Group G “Earth reinforcement in cut”. In this session, recent case histories in the world are summarized.

Chairperson: Mr. P. Héry
Co-Chairperson: Prof. Y. Miyata (Japan)
Secretary: Dr. J. Izawa (Japan)

An innovative connection between a nailed slope and an MSE structure: Application at Sishen mine, RSA

N. Freitag, A.C.S. Smith & H.J.L. Maritz

Walls over compressible soils and unstable slopes. Examples

A. Ramirez, F. Valero & C. Perez

SeaTac Third Runway: Design and performance of MSE tall wall

J.E. Sankey, M.J. Bailey & B. Chen

Study of a 15m Vertical Soil Nailed Wall at Capella@Sentosa

S.A. Tan & A. Rumjeet

Two examples of recent innovation linked to optimization of soil reinforced structures

P. Delmas & A. Nancey

Construction of a large geogrid reinforced fill structure to increase landfill capacity

J.W. Cowland

Tire chips for geotechnical applications

K. Yasuhara, H. Hazarika, Y. Mitarai & A.K. Karmokar

Geotechnical problems on reinforcement soil ground in Kazakhstan

A. Zhusupbekov & R. Lukpanov

13:00 – 13:35 Keynote Lecture

Newly standardized procedures for assessing the reduction factors for high strength geosynthetic reinforcements

Mr. Sam ALLEN, TRI Geosynthetic Services, U.S.A.;
Chairperson of ASTM D35 Geosynthetics.



Chairperson: Prof. N. Yasufuku (Japan)
Secretary: Dr. J. Hironaka (Japan)

Wednesday, November 14

13:40 – 15:20 Technical Session I

“Materials and New Testing”

Chairperson: Prof. R. Lo (Australia)

Co-Chairperson: Dr. J. Sankey (USA)

Secretary: Prof. Y. Kohata (Japan)

Durability Evaluation of Various Geogrids by Index and Performance Tests

H.Y. Jeon & M.S. Mok

Lifetime prediction of PET geogrids under dynamic loading

H. Zanzinger, H. Hangen & D. Alexiew

Load-deformation behaviour of virgin and damaged non-woven geotextiles under confinement

M.J.A. Mendes & E.M. Palmeira

A theoretical method to predict the pullout behaviour of extruded geogrids embedded in granular soils

N. Moraci, G. Cardile & D. Giofrè

Resistance of steel chain in pullout tests with and without sliding box

M. Fukuda, T. Hongo, A. Kitamura, Y. Mochizuki, S. Inoue, E. Fujimura & M. Kimura

Installation Method and Overburden Pressure on Soil Nail Pullout Test

K.C. Yeo, S.R. Lo & J.H. Yin

Shear behavior of waster tire chip-sand mixtures using direct shear tests

M. Ghazavi & F. Alimohammadi

Analysis of Geofiber Reinforced Soils

A.T. Sway & S. Bang

15:50 – 17:30 Technical Session II

“Advanced numerical-modeling”

Chairperson: Prof. C. Yoo (Korea)

Co-Chairperson: Prof. J. Han (USA)

Secretary: Prof. Y. Nabeshima (Japan)

Effect of restraint deformation on stability of cut slope with soil nailing

T. Nishigata, S. Araki & Y. Nakayama

Modelling fiber reinforced sand

A. Diambra, E. Ibraim, D. M. Wood & A. Russell

Numerical analysis of stability of slope reinforced with piles subjected to combined load

T.K. Nian, M.T. Luan, Q. Yang & G. Q. Chen

The counteracting effects of rate of construction on reinforced embankments on rate-sensitive clay

R.K. Rowe & C. Taechakumthorn

Numerical simulation of stone column installation using advanced elastoplastic model for soft soil

Z. Guetif, M. Bouassida & F. Tounekti

Rigid plasticity based stability analysis of reinforced slope

S. Ohtsuka, Y. Inoue, T. Tanaka

Bearing capacity of reinforced foundation subjected to pull-out loading: 3D model tests and numerical simulation

T. Nakai, F. Zhang, M. Hinokio, H.M. Shahin, M. Kikumoto, S. Yonaha & A. Nishio

3D soil reinforcement modeling by means of embedded pile

E.G. Septanika, P.G. Bonnier, K.J. Bakker & R.B.J. Brinkgreve

Wednesday, November 14

17:30 – 19:00 Poster session I

**“Recent case histories of earth reinforcement”,
“Materials and new testing” & “Advanced numerical modeling”**

Chairperson: Dr. H. Imanishi (Japan), Secretary: Dr. S. Yamada (Japan)

<p>Design considerations of Reinforced Earth using inextensible reinforcements in heavy load surcharge support capacity (P. Wu & W.J. Brockbank)</p> <p>Multiple applications of reinforced earth technologies for industrial mining structures – Georgia Pacific Mining design/build project (P. Proctor & P. Wu)</p> <p>Parametric analysis of a 9-m high reinforced soil wall with different reinforcement materials and soil backfill (B. Huang, K. Hatami & R.J. Bathurst)</p> <p>Ultimate pullout forces of orthogonally horizontal-vertical geosynthetic reinforcement (M.X. Zhang, S.L. Zhang, J. Huang & A.A. Javadi)</p> <p>Reinforced earth for temporary work in Hong Kong (G. Ng)</p> <p>Soil/reinforcement interface characterization using three-dimensional physical modeling (A. Abdelouhab, D. Dias, Y. Bourdeau & N. Freitag)</p> <p>Reactivation of a geogrid-bridged sinkhole: a real life solution approval (D. Alexiew)</p> <p>Special process techniques with project specified geosynthetics for sludge lagoon covers (O. Syllwasschy, O. Detert, D. Brokemper & D. Alexiew)</p> <p>Pullout response study for cellular reinforcement (M.S. Khedkar & J.N. Mandal)</p> <p>Jute Geotextile and its application in civil engineering, agri-horticulture and forestry (P.K. Choudhury, A. Das & T. Sanyal)</p> <p>Influence of interference on bearing capacity of strip footing on reinforced sand (M. Ghazavi & A.A. Lavasan)</p> <p>Static analysis of slopes reinforced with stone columns (M. Ghazavi & A. Shahmandi)</p> <p>Development of multiphase model of reinforced soils considering non-linear behavior of the matrix (E.S. Hosseinina & O. Farzaneh)</p> <p>Effect of plasticity index and reinforcement on the CBR value of soft clay (S.A. Naeini & M.R. Yousefzadeh)</p> <p>Effects of palm fibers on CBR strength of fine sand (H. Ghiassian & H. Sarbaz)</p> <p>Improvement of geotechnical characteristics of slits deriving from washing quarry gravel (R. Meriggi, M.D. Fabbro & E. Blasone)</p> <p>Mechanical properties of lightweight treated soil under water pressure (Y.X. Tang & T. Tsuchida)</p>	<p>Effect of restraint deformation on stability of cut slope with soil nailing (T. Nishigata, S. Araki & Y. Nakayama)</p> <p>Numerical simulation on bearing capacity of soilbag-reinforced ground considering finite deformation (D. Muramatsu, F. Zhang & H.M. Shahin)</p> <p>Environmental friendly reinforced retaining wall by using traditional stone masonry (N. Fukuda, Y. Kameda, T. Yoshimura, K. Abe, K. Watanabe, T. Hara & Y. Kochi)</p> <p>Steel nails for stabilizing forested slopes (N. Iwasa, M.Q. Nghiem & T. Ikeda)</p> <p>Case study of geotextile method on extremely soft ground (K. Iwataki, K. Zen, K. Sakata, H. Yoshida, N. Kitayama & T. Fujii)</p> <p>Pullout resistance of reinforcement bar due to bearing capacity of expanded toe (T. Hayashi, T. Konami, H. Ito & T. Saito)</p> <p>Particle and shear characteristics of granulated coal ash as geomaterial (N. Yoshimoto, M. Hyodo, Y. Nakata, R.P. Orense, T. Hongo & A. Ohnaka)</p> <p>Evaluating in-plane hydraulic conductivity of non-woven geotextile and plastic drain by laboratory test (K. Hara, J. Mitsui, K. Kawai, S. Shibuya, T. Hongoh & T.N. Lohani)</p> <p>Case study on deep excavation works by soil nailing on adjacent building (Y.S. Cho & H. Imanishi)</p> <p>Parametric study of geosynthetic reinforced soil retaining structures (S.J. Chao)</p> <p>Pullout load tests of the anchor plates in compacted sand used for typical backfill embankment in Thailand (J. Sunitsakul & A. Sawatparnich)</p> <p>The influence of backfill settlement or wall movement on the stability of reinforced soil structures (C.J.F.P. Jones & D. Gwede)</p> <p>Shear tests on fibre reinforced sand (A. Diambra, E. Ibraim, D.M. Wood & A. Russell)</p> <p>Numerical analysis of fibre-reinforced granular soils (E. Ibraim & K. Maeda)</p> <p>An in-depth numerical analysis of 25m tall Reinforced Earth wing walls, built back-to-back and supporting a bridge approach (K.M. Truong, S. Aziz & N. Freitag)</p> <p>Design of roadside barrier systems for MSE retaining walls (P.L. Anderson, R.A. Gladstone & K. Truong)</p> <p>Case study of a MSE wall supporting a multi-story building (F.W. Fordham, M. Louis & K.M. Truong)</p>
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Attention for Poster Session

Presenters of poster session I and II can start to display your poster at your paper number from 13:00 on Nov. 14th and 15th for each. Chairperson will have a greeting at 17:30 and then, the poster session will start. In the end, the chairperson will close the session at 19:00 and all presenters have to remove your posters.

Thursday, November 15

9:00 – 10:00 Special Lecture

New horizons in reinforced soil technology

Prof. Jorge G. ZORNBERG, The University of Texas at Austin, U.S.A.;
Vice-president of International Geosynthetics Society.



Chairperson: Dr. H. Miki (Japan)

Secretary: Dr. K. Kojima (Japan)

10:20 – 12:00 IGS Organizing Session

“Design and Measurement on full-scale behavior of reinforced structure”

The rationalization of the design is work to bury the difference between actual behavior and assumption. In this session, without distinguishing the technology by the kind of reinforcement, both task and improvement are discussed based full-scale behavior.

Chairperson: Prof. J. Kuwano (Japan)

Co-Chairperson: Dr. J.W. Cowland (China)

Secretary: Dr. D. Hirakawa (Japan)

Full-Scale Model Test and Numerical Analysis of Reinforced Soil Retaining Wall

K. Arai, K. Yoshida, S. Tsuji & Y. Yokota

Stability Analysis of Back-to-Back MSE Walls

J. Han & D. Leshchinsky

Analysis of RE wall using oblique pull for linear subgrade response: Coherent gravity approach

P.V.S.N. Pavan kumar & M.R. Madhav

Recent Developments in the K-Stiffness Method for Geosynthetic Reinforced Soil Walls

R.J. Bathurst, Y. Miyata & T.M. Allen

High capacity geostrap reinforcement for MSE structures

M.J. Grien & J.E. Sankey

Ultimate bearing capacity tests on an experimental geogrid-reinforced vertical bridge abutment without stiffening facing

D. Alexiew

Full-scale behavior of a surface loaded geosynthetic reinforced tired segmental retaining wall

C. Yoo, S.B. Kim & Y.H. Kim

Performance of Auxiliary Bearing Plates in Active Zone for Multi-Anchored Reinforced Soil Retaining Wall

T. Konami, Y. Kudo, K. Miura, T. Tatsui & S. Morimasa

13:00 – 13:35 Keynote Lecture

Model testing to evaluate the performance of soil nailed structures

Prof. Michael DAVIES, University of Auckland, New Zealand;
Editor of Ground Improvement Journal.



Chairperson: Dr. N. Fukuda (Japan)

Secretary: Dr. T. Kobayashi (Japan)

Thursday, November 15

13:40 – 15:20 Technical Session III

“Physical modeling”

Chairperson: Prof. A. Yashima (Japan)

Co-Chairperson: Prof. N. Moraci (Italy)

Secretary: Dr. K. Yamamoto (Japan)

Steep slope reinforcement with geogrids-deformation behaviour under static & cyclic loading

G. Heerten & J. Klompaker

Behavior of reinforced sand: effect of triaxial compression testing factors

I.N. Markou & A.I. Droudakis

Centrifuge model tests of static and dynamic behavior of multi-anchored sea revetment

Y. Kikuchi & M. Kitazume

Surface holding conditions of reinforced slope and slope stability

Y. Nabeshima & S. Kigoshi

Stability analyses of nailed sand slope with facing

C.C. Huang, W.C. Lin, N. Mikami, K. Okazaki, D. Hiraikawa & F. Tatsuoka

The effect of inclination of reinforcement on the horizontal bearing capacity of the ground reinforcing type foundation

J. Izawa, H. Kusaka, M. Ueno, N. Nakanani, H. Sato & J. Kuwano

Effect of soil dilation on performance of geocell reinforced sand beds

S.K. Dash

Deformation behaviour of clay cap liners of landfills from centrifuge and full-scale tests- influence of reinforcement inclusion

J.P. Gourc, S. Camp, B.V.S. Viswanadham & S. Rajesh

15:50 – 17:30 Technical Session IV

“Combined technologies”

Chairperson: Dr. G. Heerten (Germany)

Co-Chairperson: Dr. K.C. Yeo (Hong Kong)

Secretary: Dr. K. Sawada (Japan)

Electrokinetic soil nailing for the strengthening or repair of failures of clay slopes and cuttings

J. Lamont-Black, D. Huntley, C.J.F.P. Jones, S. Glendinning & J. Hall

Design and construction of a composite nailed and mechanically stabilized embankment structure across a talus slope

T. Bergmann & A.C.S. Smith

Bending tests on a beam of grid-reinforced and cement-mixed well-graded gravel

T. Uchimura, Y. Kuramochi & T.T. Bach

Support of MSE walls and reinforced embankments using ground improvement

F. Masse, S. Pearlman & R.A. Bloomfield

Reinforced soil wall and approach embankment for Cliff Street overpass constructed on stabilized foundations

N. Fok, G. Power & P. Vincent

Geosynthetic encased stone columns in soft clay

S.R. Lo, J. Mak & R. Zhang

FEM analysis of the effect of the prestress induced in micropiles

K. Miura, S. Morimasa, Y. Otani & Y. Tsukada

Thursday, November 15

17:30 – 19:00 Poster session II

“Recent case histories of each earth reinforcement”,
“Materials and new testing” & “Advanced numerical modeling”

Chairperson: Prof. H. Nagase (Japan), Secretary: Dr. H. Sugimoto (Japan)

- Physical and numerical modeling of EPS geofoam buffers for seismic load reduction on rigid walls (*S. Zarnani & R.J. Bathurst*)
- Geosynthetic liners on landfill cover slope: possible reinforcement of the stability of veneer soil layer (*J.P. Gourc & H. Pitanga*)
- Two geogrid-reinforced steep slopes as combined structures on columns and piles: case histories (*D. Alexiew, S. Jossifowa & H. Hangen*)
- Validation of high seismic stability of a new type integral bridge consisting of geosynthetic-reinforced soil walls (*H. Aizawa, M. Nojiri, D. Hirakawa, H. Nishikiori, F. Tatsuoka, M. Tateyama & K. Watanabe*)
- Numerical assessment of the performance of protecting wall against rockfall (*E. Sung, A. Yashima, D. Aminata, K. Sugimori, K. Sawada, S. Inoue & Y. Nishida*)
- Subgrade reaction of reinforced earth wall underneath the facing panel (*T. Kumada & K. Watanabe*)
- Toughness improvement of hybrid sandwiched foundations and embankment reinforced with geosynthetics (*S. Yamazaki, K. Yasuhara, S. Murakami, & H. Komine*)
- Pullout resistance of strip embedded in cement-treated soil layer for reinforced soil walls (*M. Suzuki, Y. Tasaka, O. Yoneda, A. Kubota & T. Yamamoto*)
- Stability assessment of geogrid reinforced soil wall by using optical fiber sensor (*S. Tsuji, K. Yoshida, Y. Yokota & A. Yashima*)
- Stability analysis of a new type of reinforced earth slope (*Y. Yokota, K. Arai, S. Tsuji & H. Ohta*)
- Simplified design method for reinforced slopes considering progressive failure (*J.C. Jiang, T. Yamagami & S. Yamabe*)
- Mechanism of reinforcement using soil nails, rope nets for slope stability (*H. Kimura & T. Okimura*)
- Shaking table model tests on retaining walls reinforced with soil nailings (*S. Nakajima, J. Koseki, K. Watanabe & M. Tateyama*)
- Damage to Terre Armée structures from the Mid-Niigata Earthquake and measures and actions taken to date (*H. Nagakura, H. Oota & G. Berard*)
- Displacement and failure characteristics of model geogrid-reinforced structure subjected to impact load (*N. Yasufuku, H. Ochiai, K. Omine, T. Kobayashi & K. Shomura*)
- Large-scale overflow failure tests on embankments using soil bags anchored with geosynthetic reinforcements (*K. Matsushima, S. Yamazaki, Y. Mohri, T. Hori, M. Ariyoshi & F. Tatsuoka*)
- Full-scale experiments on bend of pressure pipeline using geogrid (*Y. Sawada, T. Kawabata, K. Uchida, A. Totsugi & J. Hironaka*)
- Shaking table test for lightweight spillway with geogrid (*T. Kawabata, K. Uchida, T. Kitano, K. Watanabe & Y. Mohri*)
- Effect evaluation for the geocomposite reinforced embankment of cohesive soil (*Y. Tanabashi, Y. Jiang, S. Sugimoto, R. Katoh & K. Tsuji*)
- Development of rational design method for the geogrid reinforced soil wall combined with soil cement and its application (*H. Ito, T. Saito, M. Ueno, J. Izawa & J. Kuwano*)
- Load transfer mechanisms in the reinforced embankment over the pile elements (*J. Hironaka, T. Hirai, J. Otani & Y. Watanabe*)
- Laboratory investigation into effectiveness of thixotropic gel compaction method (*A.M. El-Kelesh, K. Tokida, T. Oyama & S. Shimada*)
- Study on the performance of a reinforced earth wall during earthquake based on Tottori-ken Seibu earthquake event (*K. Watanabe & T. Kumada*)
- Improvement in bearing capacity of shallow improvement ground by mixing short fibers (*H. Matsui, H. Ochiai, K. Omine, N. Yasufuku, T. Kobayashi & R. Ishikura*)
- Fundamental mechanical properties of geocell reinforced sands (*K. Yazawa, T. Ajiki, H. Ohmori, K. Kaneko & K. Kumagai*)
- Deformation measurements of test embankments reinforced by geocell (*H. Omori, T. Ajiki, K. Yazawa, K. Kaneko, K. Kumagai & M. Horie*)
- Experimental study on bearing capacity of geocell-reinforced soil (*T. Ajiki, H. Ohmori, K. Yazawa, K. Kaneko & K. Kumagai*)
- Rainfall seepage analysis and dynamic response analysis for the railway embankments seriously damaged in the 2004 Niigata-ken Chuetsu earthquake (*T. Matsumaru, M. Tateyama, K. Kojima, K. Watanabe, M. Shinoda & M. Ishizuka*)
- Shaking Table Tests on Seismic Behavior of Sand Slopes Reinforced by Carpet Strips (*H. Shahnazari, A. Fooladi & B. Ghosairi*)
- Improvement of earthquake resistance by reinforcing toe of embankments (*K. Oda, K. Tokida, Y. Egawa & K. Tanimura*)
- Shaking table tests on the mechanism to stabilize slopes by steel nails during earthquakes (*S. Yasuda, C. Higuchi, C. Ishii & N. Iwasa*)
- Visualization of failure pattern of reinforced soil with face bolts on direct shear tests (*D. Takano, J. Otani, T. Mukunoki & N. Lenoir*)
- Geogrid Reinforcement for Cement Stabilized Soil (*Y. Miyata, S. Shigehisa & K. Okuda*)
- Effect of facing rigidity on the stability of nailed sand slope in model tests (*N. Mikami, K. Okazaki, D. Hirakawa, F. Tatsuoka & C.C. Huang*)

Friday, November 16

09:00 – 09:35 Keynote Lecture

Combined technology with other technique

– Current innovation on earth reinforcement technique –

Prof. Dennes BERGADO

Asian Institute of Technology, Thailand.



Chairperson: Prof. M. Hyodo (Japan)

Secretary: Dr. D. Suetsugu (Japan)

09:40 – 10:15 Keynote Lecture

New direction of earth reinforcement

– Disaster prevention –

Dr. Yoshiyuki MOHRI

National Institute for Rural Engineering (NIRE), Japan.



Chairperson: Prof. Ph. Delmas (France)

Secretary: Dr. K. Kasama (Japan)

10:30 – 12:10 Technical Session V

“Geo-hazards and Mitigation”

Chairperson: Prof. S.A. Tan (Singapore)

Co-Chairperson: Prof. C.C. Huang (Taiwan)

Secretary: Prof. A. Hiro-oka (Japan)

Earthquake performance of reinforced earth embankment subjected to strong shaking and ground deformations

C.G. Olgun, J.R. Martin II, H.T. Durgunoğlu & T. Karadaylar

Seismic stability of reinforced soil structure constructed after the mid Niigata prefecture earthquake

M. Shinoda, K. Watanabe, K. Kojima, M. Tateyama & K. Horii

Behaviour of reinforced earth structures founded on soft slit deposit in seismically active hilly terrains

P. Mahajan, S. Biswas & A. Adhikari

A new type integral bridge comprising of geosynthetic-reinforced soil walls

F. Tatsuoka, D. Hidakawa, M. Nojiri, H. Aizawa, M. Tateyama & K. Watanabe

Effects of the tensile resistance of reinforcement in the backfill on the seismic stability of GRS integral bridge

D. Hidakawa, M. Nojiri, H. Aizawa, H. Nishikiori, F. Tatsuoka, K. Watanabe & M. Tateyama

Seismic design of mechanically stabilized wall structures

J.H. Wood, D.E. Asbey-Palmer & C.W. Lawson

Full-scale tests on a new type of debris flow trapping fence

H. Ohta, K. Kumagai, H. Takahashi, H. Motoe, S. Hirano, Y. Yokota & S. Tsuji

Application of geotextile technology to reduce surface erosion on natural slope

E. Purwanto

Friday, November 16

13:30 – 15:50 Discussion Session “New design philosophy of reinforced soil wall”

There are many design method in the world. Each design method has a different advantage. Purpose of this session is to discuss what is excellent in each design method.

Chairperson: Prof. E.M. Palmeira (Brazil)

Co-Chairperson: Prof. T. Uchimura (Japan)

Secretary: Dr. M. Shinoda (Japan)

Seismic design of geosynthetic reinforced soils for railway structures in Japan

J. Koseki, M. Tateyama and M. Shinoda

Design philosophy for reinforced soil walls. Noteworthy aspects of European standards

P. Segrestin

Limit State Design of Reinforced Soil

C.J.F.P. Jones and S.P. Corbet

Working stress design for geosynthetic reinforced soil walls

R.J. Bathurst

16:00 – 16:30 Closing Session

Prof. T. Mukunoki, Secretary General of the IS Kyushu '07, Chairperson of Closing session

Prof. O. Kusakabe, JSCE Director, ISSMGE Appointed Board Member

Prof. J. Otani, Chairperson of the organizing committee

INFORMATION

Lunch

The lunch tickets will be sold in the information desk at 1st floor in the morning. We use only Japanese cash and do not have the payment of credit card.

Farewell Party

The farewell party will be held at the JAL Resort Sea Hawk Hotel (5F Tinga Tinga) from 18:00 on Nov. 16th. Casual dress and comfortable shoes are recommended. Registration fee includes the banquet fee so all participants are welcome to the party. If you want to invite your accompany person, please contact reception desk at 1st floor. The awarding ceremony for the best presentation awards and a prize for full attendance of past IS Kyushu will be held in the party.

Ticket of Sumou Wrestling and other Tour Information.

If you are interested in the Sumou Wrestling or want to get any other tour information, please contact the information desk of Nippon Travel Agency beside the registration desk at the 1st floor in the venue.

Cashing

Registration desk does not support any credit card system and not have the information of exchange rate in the registration desk. Please use Japanese cash only in the symposium venue if necessary.

Climate

Usually, November is the end of autumn season in Kyushu so it would be cold in the night. Please check the weather information before you come to JAPAN.

Address of Venue and Phone

Nishijin Plaza, Kyushu University
2-16-26 Nishijin, Sawara-Ku, Fukuoka, Japan,
ZIP cord: 814-0002
Phone: 092-831-8104

TRAFFIC INFORMATION

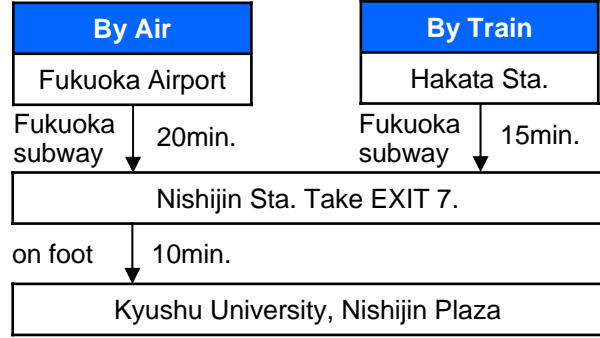
<http://subway.city.fukuoka.jp/eng/index.html>

From Fukuoka Airport by subway

Take the subway to go to Meinohama. 9th station from the Fukuoka airport is Nishijin station.

From Hataka Station by subway

Take the subway to go to Meinohama. 7th station from the Fukuoka airport is Nishijin station.



MAP OF FUKUOKA CITY

