

# Sustainable Infrastructure Development in Asia

International Exchange Symposium

**September 15-19, 2008, Sri Lanka**

Saitama University, Japan (SU)

University of Moratuwa, Sri Lanka (UoM) &

University of Peradeniya, Sri Lanka (UoP)

## Steering Committee

Prof. Norio Tanaka (SU), Prof. Toshiko Komatsu (SU), Prof. Koji Tsunokawa (SU),  
Assoc. Prof. Ken Kawamoto (SU), Asst. Prof. Kenji Harada (SU),  
Asst. Prof. Shingo Asamoto (SU)  
Prof. S.M.A. Nanayakkara (UoM), Prof. S.B. Weerakoon (UoP),  
Prof. KDW Nandalal (UoP), Dr. M.I.M. Mowjood (UoP), Dr. Jagath Manatunge (UoM),  
Dr. Gemunu Herath (UoP), Dr. Udeni Nawagamuwa (UoM),  
Dr. Saman Samarawicrama (UoM)

## Advisory Staff

Prof. Hiroshi Mutsuyoshi (SU)  
Prof. Ananda Jayawardane (UoM)  
Prof. SBS Abayakoon (UoP)

## List of Participants from Saitama University

Faculties	Graduate students
Prof. Norio Tanaka	Mr. Tomoya Akama, Mr. Kousuke Iimura,
Prof. Toshiko Komatsu	Mr. Masataka Unno, Mr. Kouichi Inoue,
Prof. Koji Tsunokawa	Mr. Keisuke Uchiyama, Mr. Ryo Sugihara,
Assoc. Prof. Ken Kawamoto	Mr. Yuichi Sugimoto, Mr. Taiki Hirata,
Asst. Prof. Kenji Harada	Mr. Makoto Hoshikawa
Asst. Prof. Shingo Asamoto	

## Schedule in Sri Lanka

<b>September 13</b>	<b>Arrival – Airport hotel</b>
<b>September 14</b>	Travel to University of Peradeniya
<b>September 15</b>	Symposium @ University of Peradeniya
<b>September 16</b>	Symposium @ University of Peradeniya
<b>September 17</b>	Symposium @ University of Peradeniya - Field Visit
<b>September 18</b>	Field Visit – Travel to University of Moratuwa
<b>September 19</b>	Research Colloquium @ University of Moratuwa - Departure

Proceedings of the  
International Exchange Symposium on

# **SUSTAINABLE INFRASTRUCTURE DEVELOPMENT IN ASIA**

15-17 September, 2008  
University of Peradeniya, Sri Lanka



Jointly Organized by



University of Peradeniya



Saitama University



University of Moratuwa

---

***Supported by  
International Collaborative Graduate Program (ICGP)***



## **Session II - Student Exchange Seminar 1**

**Chairperson : Prof. Toshiko Komatsu (SU) and Dr. MIM Mowjood (UoP)**

**Seminar Room # 3**

- 2:00 – 2:15 Collapse Condition of River Bed Protection Block by Floods, Koichi Inoue, Saitama University
- 2:15 – 2:30 Combined Effect of Rigid-Stern Vegetation and Bed Roughness in Flood Plain Flows: D Rathnadiwakara, University of Peradeniya
- 2:30 – 2:45 Corrosion of Reinforcing Steel in RC And PRC Beams by Accelerated Corrosion Testing Method, Ryo Sugihara, Saitama University
- 2:45 – 3:00 Assessment of Exposure of Sri Lanka to Tsunami Hazards, ....., University of Moratuwa
- 3:00 – 3:15 Coastal Vegetation Effects on Reducing Tsunami Run-Up Height and Fluid Force, Keisuke Uchiyama, Saitama University
- 3:15 – 3:30 Impact Mitigation of Solid Waste Dumping Using Constructed Wetlands, EASK Ratnapriya, University of Peradeniya
- 3:30 – 3:45 Soil Dynamic Deformation Depending on Sedimentary Environment and Soil Properties, Tomoya Akamal Saitama University
- 3:45 – 4:00 Resistance to Flow Through Vegetation and Tsunami Impact Mitigation, ....., University of Moratuwa
- 4.00-4.15 Spatial Variability and Scale Dependency of Soil-Air Permeability an a Landfill Soil Cover And Three Natural Field Soils, Yuichi Sugimoto, Saitama University
- 4.15 ~ **TEA and CLOSE**

## **Tuesday, September 16 2008**

### **Session III**

**Co-Chairs : Prof. Koji Tsunokawa (SU) and Dr. U R Ratnayake (UoP)**

#### **Seminar room # 3**

- 8:30 – 9:00 Special Lecture: Emerging Aspects of Soil Hydrology: Soil Water Repellency, Fingered Flow, and High Resolution Measurement Methods, Prof. Toshiko Komatsu, Saitama University
- 9:00 – 9:30 Special Lecture : Autogenous Healing of Cracks in Concrete, Prof. Anura Nanayakkara, University of Moratuwa
- 9:30 – 10:00 Special Lecture: Study on Shrinkage Behavior of Concrete Exposed to Actual Environmental Conditions, Dr. Shingo Asamoto, Saitama University
- 10:00 – 10:30 Special Lecture : Research and Consultancy Activities in Water And Environmental Engineering at Peradeniya, Prof. KDW Nandalal, University of Peradeniya
- 10:30 – 11:00 **TEA**
- 11:00 – 12:30 Laboratory Visits
- 12:30 – 02:00 **LUNCH**

### **Session IV - Student Exchange Seminar 2**

**Co-Chairs : Dr. Kenji Harada (SU) and Dr. Udeni Nawagamuwa (UoM)**

#### **Seminar room #3**

- 2:00 – 2:15 Gas Transport Parameters for Peat Soils at Near Saturated Condition, Masataka Unno, Saitama University
- 2:15 – 2:30 Mechanics of Nano Structure, R Thevamaran and WRK Illeperuma, University of Peradeniya
- 2:30 – 2:45 Tsunami Defense Combining Coastal Vegetation and the Banking of Coastal Roads, Kosuke Iimura, Saitama University
- 2:45 – 3:00 Modelling of Toxic Gas Behaviour at a Waste Disposal Site and Risk Assessment, Udeni Nawagamuwa, University of Moratuwa.
- 3:00 – 3:15 Measurement of Distribution Coefficients for Pesticide onto Soil and Colloidal Materials, Taiki Hirata, Saitama University
- 3:15 – 3:30 Influence of Geotechnical and Mineralogical Properties on Cracking of Some Old Earthen Dams, KMGDN Dias, University of Peradeniya
- 3:30 – 3:45 Loading Experiments on Standing Trees with Modeled Local Scour in the Root Anchoring Zone, Makoto Hoshikawa, Saitama University
- 3:45 – 4:00 Rehabilitation of the Koggala Lagoon Mouth to Restore the Lagoon Ecosystem, ..... University of Moratuwa,
- 4:00 – 4:15 Using Coir Pith as a Media in Constructed Wetlands, K Weragoda, University of Peradeniya
- 4:15 **TEA and CLOSE**

## Wednesday, September 17 2008

### Session V

**Co-Chairs : Prof. Norio Tanaka (SU) & Prof. SB Weerakoon (UoP)**

**Seminar room # 3**

- 8:30 – 9:00 Keynote speech: Sustainable Infrastructure Development, Prof. Koji Tsunokawa, Saitama University
- 9:00 – 9:30 Special Lecture : Coast and Port Development in Sri Lanka, Dr. Saman Samarawickrama, University of Moratuwa
- 9:30 – 10:00 Special Lecture : The Effect of Coastal Forest in Reducing Tsunami Damage – The Case Study of the House Damage by the 2007 Solomon Island Tsunami in Ghizo Island, Dr. Kenji Harada, Saitama University
- 10:00 – 10:30 Special Lecture : - Research and consultancy activities in Soil and Geotechnical Engineering, University of Peradeniya, Prof. KGHCN Seneviratne, University of Peradeniya
- 10:30 – 11:00 **TEA**

### Closing Session

11:00 – 12:30 **Chairperson : Dr. A P N Somaratne, Dr. Shingo Asamoto & Mr. Harsha Ratnassoriya**

Panel Discussion – Curriculum Development in Civil Engineering  
(with short presentations – 30 minutes presentations #3, each 10 minutes)  
Recent Improvements to Undergraduate Civil Engineering Program at Saitama University  
– by Toshiko Komatsu (10 min)  
Recent Improvements to Undergraduate Civil Engineering Program at University of Moratuwa (10 min)  
– by  
Recent Improvements to Undergraduate Civil Engineering Program at University of Peradeniya (10 min)  
by  
Panel Discussion (60 min)

12:30 **END OF THE CONFERENCE**

---

Organized by

Department of Civil and Environmental Engineering  
Saitama University  
255 Shimo-Okubo, Sakura-ku, Saitama shi,  
Saitama 338-8570, JAPAN  
<http://www.civil.saitama-u.ac.jp/>

Department of Civil Engineering  
Faculty of Engineering,  
University of Peradeniya,  
Peradeniya,  
SRI LANKA  
<http://www.civil.pdn.ac.lk/>

Department of Civil Engineering  
Faculty of Engineering,  
University of Moratuwa,  
Katubedda,  
Moratuwa, SRI LANKA  
<http://www.civil.mrt.ac.lk/>

<Photographs>

**Monday, September 15 2008 at University of Peradeniya**

1st day of International Exchange Symposium



ペラデニア大学



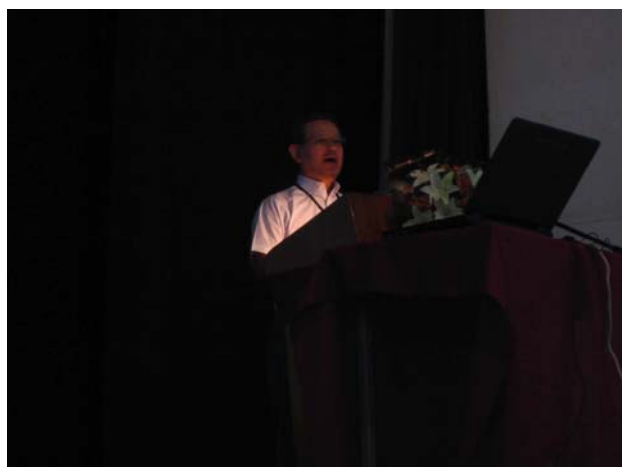
ペラデニア大学工学部長・建設工学科長との対面



オープニングセレモニーの様子



各大学の Keynote Speakers



角川教授による ICGP プログラムの説明



ペラデニア大学 Abayakoon 教授による Civil engineer 教育についての講演



田中教授による Keynote Speech



スリランカ研究者と議論を交わす  
田中教授



大学院生による研究発表



大学院生による研究発表



大学院生による研究発表



大学院生による研究発表

**Tuesday, September 16 2008 at University of Peradeniya**  
2nd day of International Exchange Symposium



小松教授による Keynote Speech



浅本助教による Keynote Speech



大学院生による研究発表



大学院生による研究発表



大学院生による研究発表



大学院生による研究発表

**Wednesday, September 17 2008 at University of Peradeniya**  
Final day of International Exchange Symposium



角川教授による Keynote Speech



原田助教による Keynote Speech



今後の学部教育に関するパネルディスカッションの座長と埼玉大学発表者小松教授



パネルディスカッションの様子



シンポジウム参加者集合写真



埼玉大学からの参加者集合写真

Friday, September 19 2008 at University of Moratuwa  
Discussion about collaborative researches



モラツワ大学工学部長と角川教授



モラツワ大学工学部長と田中教授



モラツワ大学土木工学科長と田中教授



モラツワ大学共同研究打合せ後の集合写真



モラツワ大学での共同実験



モラツワ大学での共同実験



現地視察



現地視察