



## PROGRAM BOOK

# The 8<sup>th</sup> International Conference of Euro Asia **CIVIL ENGINEERING FORUM** 2022 "ADVANCED & INNOVATIVE TECHNOLOGY FOR SUSTAINABLE INFRASTRUCTURE"

October 4 – 5, 2022, OST Eastern Switzerland University of Applied Sciences, Switzerland  
October 12 – 13, 2022, University of Atma Jaya Yogyakarta, Indonesia

### ORGANIZED AND HOSTED BY:



**U N I K A S S E L**  
**V E R S I T A T**



# PROGRAM BOOK

## The 8<sup>th</sup> International Conference of Euro Asia **CIVIL ENGINEERING** FORUM 2022

“ADVANCED & INNOVATIVE TECHNOLOGY FOR SUSTAINABLE INFRASTRUCTURE”

October 4 – 5, 2022, OST Eastern Switzerland University of Applied Sciences, Switzerland

October 12 – 13, 2022, University of Atma Jaya Yogyakarta, Indonesia

October 2022

Edited by Lidya, Rachmansyah, and Harianto

Published by Organizing Committee of EACEF 2022

For electronic version: [https://conference2021.eacef.com/?page\\_id=2846](https://conference2021.eacef.com/?page_id=2846)

# CONFERENCE PROGRAM; October 4-5, 2022

## OPENING REMARKS

**Prof. Simone Stürwald**

Chairwoman of EACEF Conference 2022 in Europe  
OST Eastern Switzerland University of Applied Sciences  
Switzerland

**Prof. Dr.-Ing. Harianto Hardjasaputra**

Founding Chairman of EACEF  
Pembangunan Jaya University  
Indonesia

**Prof. Dr. Margit Mönnecke**

Head of Department Architecture, Civil Engineering,  
Landscape Architecture and Spatial Planning  
OST Eastern Switzerland University of Applied Sciences  
Switzerland

**Dr. Ir. Danis Hidayat Sumadilaga, M.Eng.Sc., IPU., ACPE.,  
APEC Eng.**

Chairman of The Institution of Engineers Indonesia (PII)  
Head of Task Force for The Implementation of New Capital City  
NUSANTARA, Infrastructure Development  
Indonesia

## SCHEDULE

Conference Day 1 (October 4 <sup>th</sup> , 2022)			
PLENARY SESSIONS	Switzerland CEST GMT+2	Indonesia (WIB) GMT+7	Activities
	08:00	13:00	Zoom Starting
	08:30	13:30	<b>Opening Remarks</b> Prof. Simone Stürwald Prof. Dr.-Ing. Harianto Hardjasaputra Prof. Dr. Margit Mönnecke Dr. Ir. Danis Hidayat Sumadilaga, M.Eng.Sc., IPU., ACPE., APEC Eng.
	09:00	14:00	<b>Philosophy and Design of new Indonesia Presidential Palace</b> <i>Dr. (H.C.) Drs. Nyoman Nuarta</i> Studio Nyoman Nuarta Indonesia
	09:30	14:30	<b>Potential of Ultra-High-Performance Concrete (UHPC) for Refurbishment of Bridges</b> <i>Prof. Dr.-Ing. Ekkehard Fehling</i> University of Kassel Germany
	10:00	15:00	Break
	10:15	15:15	Sponsor
	10:30	15:30	<b>How Artificial Intelligence (AI) Can Help Predicting Shaking of A Building During An Earthquake</b> <i>Prof. Dr. Ir. Buntara Sthenly Gan</i> Nihon University Japan
	11:00	16:00	<b>Seismic Design and Protection of Industrial Facilities</b> <i>Prof. Dr.-Ing. Christoph Butenweg</i> RWTH Aachen University Germany
	11:30	16:30	<b>Optimised Processes for the Production of Performance Concrete Constituents based on Agricultural Wastes</b> <i>Dr. Wolfram Schmidt</i> The Bundesanstalt für Materialforschung und -prüfung (BAM) Germany
	12:00	17:00	<b>Limestone Calcined Clay Cement (LC3)</b> <i>Prof. Dr. Karen Scrivener</i> Ecole Polytechnique Fédérale de Lausanne (EPFL) Switzerland
12:30	17:30	End	

## Conference Day 2 (October 5<sup>th</sup>, 2022)

PLENARY SESSIONS	Switzerland CEST GMT+2	Indonesia (WIB) GMT+7	Activities
	08:00	13:00	Zoom Starting
	08:30	13:30	<b>Sustainable Concrete Structures</b> <i>Prof. Simone Stürwald</i> OST Eastern Switzerland University of Applied Sciences Switzerland
	09:00	14:00	<b>Innovation Through Connected Thinking While Delivering Seismic Resilience in Surabaya (Indonesia) for Sustainable Infrastructure</b> <i>Barnali Ghosh, Ph.D., CEng., FICE</i> Royal Academy of Engineering (RAEng) Visitor Professor Cambridge University Technical Principal (Seismic) United Kingdom
	09:30	14:30	<b>FIBRADIKE, A Novel Distributed Fiber Optic Monitoring System for Dikes and Earth Dams</b> <i>Prof. Dr. Carlo Rabaiotti</i> OST Eastern Switzerland University of Applied Sciences Switzerland
	10:00	15:00	Break
	10:15	15:15	Sponsor
	10:30	15:30	<b>Applications of Stainless Steel Nanotubes for Decontamination of Water</b> <i>Prof. Jae-Woo Park</i> Hanyang University South Korea
	11:00	16:00	<b>The Need for Sustainable Structures – Beyond The Limits of Structural Engineering</b> <i>Dipl. Bauing. FH Wolfram Kübler</i> WaltGalmarini AG Switzerland
	11:30	16:30	Closing Remarks
12:00	17:00	End	

# CLOSING REMARKS

*Announcement of Technical Sessions in Yogyakarta*

**Dr.-Ing. Agustina Kiky Anggraini, S.T., M.Eng.**

Universitas Atma Jaya Yogyakarta

Chairwoman of Technical Sessions in Yogyakarta

*Announcement of The Next Conference of EACEF*

**Prof. Dr. Ir. Buntara Sthenly Gan**

Nihon University, Japan

*Thankfulness of Organizing Committee of EACEF 2022*

*Conference*

**Yuliarti Kusumawardaningsih, BEng., MEng., MEngPrac,**

Chairwoman of EACEF (European Commission)

University of Kassel, Germany

# **TECHNICAL SESSIONS 12-13 OCTOBER 2022**

**YOGYAKARTA, INDONESIA**

## **VENUE**

**Universitas Atma Jaya Yogyakarta (UAJY)**

Building Santo Bonaventura

Babarsari Street No. 43, Depok, Sleman, Yogyakarta  
55281

# SCHEDULE

## Day 1 – October 12<sup>th</sup>, 2022:

09:00 - 10:00 Morning Coffee and Registration for OFF-line Participants

10:00 - 12:00 **Opening**

1. Rector of Universitas Atma Jaya Yogyakarta
2. Chairwoman of Tehnical Sessions in Yogyakarta

### **Invited Speakers**

1. Prof. Buntara Sthenly Gan (College of Engineering, Nihon University, Koriyama, Japan)
2. Prof. Takashi Goso (Tokyo City University, Japan)

### **IOP Paper publication update**

Prof. Antoni, S.T., M.Eng, Ph.D.

12:00 - 13:00 Lunch time

13:00 - 15:00 Technical Session 1

I On-line OFF-line Presentation
--

II On-line OFF-line Presentation
---

III On-line OFF-line Presentation
--

15:00-15:30 Coffee Break

15:30-17:30 Technical Session 2

I On-line OFF-line Presentation
--

II On-line OFF-line Presentation
---

III On-line OFF-line Presentation
--



## Day 2 – October 13<sup>th</sup>, 2022:

09:00 - 10:00 Coffee Time

10:00 - 12:00 Technical Session 3

I On-line OFF-line Presentation	II On-line OFF-line Presentation	III On-line OFF-line Presentation
--	---	--

12:00 - 12:15 Closing Ceremony

12:15 - 13:15 Lunch time

# World Heritage Excursion Program

## Visit Borobudur Temple and Prambanan Temple

Date: Friday, October 14 2022

Time: Start 8.00 AM

Finish 6.00 PM

### How you can arrange the Excursion (personal or group)

1. The OC will provide **Excursion Registration Desk** at the conference venue, on 12-13 October 2022.
2. You can make registration and arrangement DIRECTLY to the **Travel Agent PT. Absolute**  
<http://absolute-transport.com/>  
+62 813-2661-2236
3. The payment should be paid directly to the travel.
4. The travel Agent can provide:
  - a. Small group (private) max 4 persons with Toyota Avanza.
  - b. Big group (up to 10 persons) With Toyota Hi-Ace.
5. The cost for the excursions will be informed by the Travel Agent.

### Route of the excursion:

Pick up point: Campus of Universitas Atma Jaya Yogyakarta.

Departure at 8.00 AM to Borobudur Temple.

The visitors can spend their time at Borobudur Garden around 2 hours. Unfortunately, there is a new regulation which not allowed the visitors to walk to the top of the temple.

Departure at 12.30 to Prambanan Temple

On the way to Prambanan Temple the visitors will have a break at the appointed restaurant for lunch (NOT INCLUDED IN THE TRIP COST)

The visitors can spend their time at Prambanan temple around 2 hours.

Departure at 17.00 back to Campus of Universitas Atma Jaya Yogyakarta.

Finish

**Ticket Price:**

**BOROBUDUR - PRAMBANAN**

National

<https://borobudurpark.com/temple/borobudur/>

International

<https://borobudurpark.com/en/temple/borobudur-2/#post-harga>

# COMMITTEE

Steering Committee

International Scientific Committee

Organizing Committee

Secretariat: Web Conference, IT Team, Administration  
and Financial

Paper, Proceeding and Publication

Opening Ceremony and Plenary Sessions (Online) –  
Switzerland

Technical/Parallel Sessions (Online and Offline) –  
Yogyakarta, Indonesia

For more information:

[https://conference2021.eacef.com/?page\\_id=2810](https://conference2021.eacef.com/?page_id=2810)



# The 8th International Conference of Euro Asia CIVIL ENGINEERING Forum



Proceeding:  
**IOP Conference Series: Earth and Environmental Science** or  
**Journal of Physics** indexed by  
**SCOPUS** and **Others**.



**Plenary Sessions (Virtual)**  
**4-5 October 2022**

**Technical Sessions (Hybrid)**  
**12-13 October 2022**

**World Heritage Excursions**  
**14 October 2022**



Zurich, Switzerland

Yogyakarta, Indonesia

Borobudur & Prambanan Temple, Indonesia

## Keynote speakers (in confirmation):



HOSTED BY:



**OST**

Ostschweizer  
Fachhochschule

**UNI KASSEL  
VERSITÄT**

Submit your paper  
Before 31 May 2022  
visit: [www.eacef.com](http://www.eacef.com)





Proceeding:  
**IOP Conference Series: Earth  
and Environmental Science**  
indexed by **SCOPUS** and  
**Others**



**Plenary Sessions (Virtual)**  
**4-5 October 2022**

**Technical Sessions (Hybrid)**  
**12-13 October 2022**

**World Heritage Excursions**  
**14 October 2022**



**Keynote speakers:**

**DR. (H.C.) Drs. I Nyoman Nuarta**  
**Prof. Simone Stuerwald**  
**Prof. Dr.-Ing. Ekkehard Fehling**  
**Prof. Gan Buntara Sthenly**  
**Prof. Park Jaewoo**  
**Prof. Dr.-Ing. Christoph Butenweg**

and other prominent speakers.

# The 8th International Conference of Euro Asia CIVIL ENGINEERING Forum



Zurich, Switzerland

Yogyakarta, Indonesia

Borobudur & Prambanan Temple, Indonesia

Designer of New Indonesian Presidential Palace - Indonesia  
OST University of Applied Science - Switzerland  
University of Kassel - Germany  
NIHON University - Japan  
HANYANG University - South Korea  
University of Applied Science Aachen - Germany

**LAST CALL**  
for paper submission

**Before July 25, 2022**

visit: [www.eacef.com](http://www.eacef.com)

HOSTED BY:



**OST**

Ostschweizer  
Fachhochschule

**U N I K A S S E L  
V E R S I T Ä T**



**UNIVERSITAS  
KRISTEN  
PETRA**



Universitas  
Pembangunan Jaya



UNIVERSITAS TRISAKTI

# The 8th International Conference of Euro Asia CIVIL ENGINEERING Forum



## Call for e-Poster

- Research Projects
- Promote your patent
- Innovated Construction Project
- etc



**Plenary Sessions (Virtual)**  
4-5 October 2022



Zurich, Switzerland

**Technical Sessions (Hybrid)**  
12-13 October 2022

Yogyakarta, Indonesia

**World Heritage Excursions**  
14 October 2022

Borobudur & Prambanan Temple, Indonesia



### Keynote speakers:

**Dr. (H.C.) Drs. Nyoman Nuarta**  
**Prof. Simone Stürwald**  
**Prof. Dr.-Ing. Ekkehard Fehling**  
**Prof. Gan Buntara Sthenly**  
**Prof. Park Jaewoo**  
**Prof. Dr.-Ing. Christoph Butenweg**

Designer of New Indonesian Presidential Palace - Indonesia  
OST Eastern Switzerland University of Applied Sciences - Switzerland  
University of Kassel - Germany  
Nihon University - Japan  
Hanyang University - South Korea  
FH Aachen, University of Applied Sciences - Germany

and other prominent speakers.

**e-Poster  
submission:**

<https://bit.ly/eacefeposter>

**Before August 20, 2022**

visit: [www.eacef.com](http://www.eacef.com)

HOSTED BY:



**OST**  
Otschweizer  
Fachhochschule

**UNIKASSEL  
VERSITÄT**



**UNIVERSITAS  
KRISTEN  
PETRA**



Universitas  
Pembangunan Jaya



UNIVERSITAS TRISAKTI



# The 8th International Conference of Euro Asia CIVIL ENGINEERING Forum

✓ **Plenary Sessions (Virtual)**  
4-5 October 2022  
**Technical Sessions (Hybrid)**  
12-13 October 2022



**Rapperswil, Switzerland**

**Yogyakarta, Indonesia**



## Opening Remarks:

**Dr. Ir. Danis Hidayat Sumadilaga,**  
M.Eng.Sc., IPU., ACPE., APEC Eng.

**Prof. Dr. Margit Mönnecke**

**Prof. Simone Stürwald**

**Prof. Dr.-Ing. Harianto Hardjasaputra**

## Keynote speakers:

**Dr. (H.C.) Drs. Nyoman Nuarta**

**Prof. Dr.-Ing. Ekkehard Fehling**

**Prof. Simone Stürwald**

**Prof. Gan Buntara Sthenly**

**Prof. Park Jae Woo**

**Prof. Dr.-Ing. Christoph Butenweg**

**Bernali Ghosh PhD, CEng, FICE**

**Dr. Wolfram Schmidt**

**Prof. Dr. Carlo Rabaiaiti**

**Prof. Dr. Karen Scrivener**

**Dipl. Bauing. FH Wolfram Kübler**

**Dr. Ezri Hayat**

Studio Nyoman Nuarta - Indonesia

University of Kassel - Germany

OST Eastern Switzerland University of Applied Sciences - Switzerland

Nihon University - Japan

Hanyang University - South Korea

FH Aachen, University of Applied Sciences - Germany

RAEng Visiting Professor, Cambridge University Technical Principal (Salemic) - UK

BAM - Germany

OST Eastern Switzerland University of Applied Sciences - Switzerland

EPFL - Switzerland

WaltGalmarini AG - Switzerland

University of Huddersfield - UK



**OST**

Ostschweizer  
Fachhochschule

HOSTED BY:

**UNIKASSEL  
VERSITÄT**

visit: [www.eacef.com](http://www.eacef.com)



**UNIVERSITAS  
KRISTEN  
PETRA**





# The 8th International Conference of Euro Asia CIVIL ENGINEERING Forum

**Plenary Sessions (Virtual)**  
 4-5 October 2022  
**Technical Sessions (Hybrid)**  
 12-13 October 2022

**Rapperswil, Switzerland**

**Yogyakarta, Indonesia**



### Opening Remarks:

**Dr. Ir. Danis Hidayat Sumadilaga, M.Eng.Sc., IPU., ACPE., APEC Eng.**

**Prof. Dr. Margit Mönnecke**

**Prof. Simone Stürwald**

**Prof. Dr.-Ing. Harianto Hardjasaputra**

### Keynote speakers:

**Dr. (H.C.) Drs. Nyoman Nuarta**

**Prof. Dr.-Ing. Ekkehard Fehling**

**Prof. Simone Stürwald**

**Prof. Gan Buntara Sthenly**

**Prof. Park Jae Woo**

**Prof. Dr.-Ing. Christoph Butenweg**

**Barnali Ghosh PhD, CEng, FICE**

**Dr. Wolfram Schmidt**

**Prof. Dr. Carlo Rabaiootti**

**Prof. Dr. Karen Scrivener**

**Dipl. Bauing, FH Wolfram Kübler**

**Dr. Ezri Hayat**

Studio Nyoman Nuarta - Indonesia

University of Kassel - Germany

OST Eastern Switzerland University of Applied Sciences - Switzerland

Nihon University - Japan

Hanyang University - South Korea

FH Aachen, University of Applied Sciences - Germany

RAEng Visiting Professor, Cambridge University Technical Principal (Seismic) - UK

BAM - Germany

OST Eastern Switzerland University of Applied Sciences - Switzerland

EPFL - Switzerland

WattGalmarini AG - Switzerland

University of Huddersfield - UK

Chairman of The Institution of Engineers Indonesia (PII) - Indonesia

Head of Department Architecture, Civil Engineering, Landscape Architecture and Spatial Planning OST Eastern Switzerland University of Applied Sciences - Switzerland

Chairwoman of EACEF Conference 2022 in Europe OST Eastern Switzerland University of Applied Sciences - Switzerland

Founding Chairman of EACEF - Indonesia Pembangunan Jaya University - Indonesia

### SPONSORED BY:



visit: [www.eacef.com](http://www.eacef.com)

SUPPORTED BY:



PT.GAMMA BETA ALPHA CONSULTANT

ANALISIS, DESAIN, KONSTRUKSI, PEMANAJAN, PEKERJAAN KAWASAN, PERENCANAAN DAN PEMANAJAN



PT. MULTIGUNA BANGUNJAYA

PT MULTIGUNA JAYA MANDIRI



# SUBMITTED TECHNICAL PAPER (OCTOBER 2022)

## 1 Keynote Speech (KN)

### 1.1 *KN-097 Optimized processes for the production of performance concrete constituents based on agricultural wastes*

**W Schmidt<sup>1</sup>, K A Olonade<sup>2</sup>**

<sup>1</sup>Bundesanstalt für Materialforschung und -prüfung, Berlin, Germany

<sup>2</sup>University of Lagos, Nigeria

### 1.2 *KN-098 Seismic monitoring of industrial facilities with digital building models and sensor technologies*

**C Butenweg<sup>1</sup>**

<sup>1</sup>Center for Wind and Earthquake Engineering, RWTH Aachen University, Germany

### 1.3 *KN-100 Comfort-based criteria for evaluating seismic strengthening performance of building*

**E Nouchi<sup>1</sup>, N G Wariyatno<sup>2</sup>, A L Han<sup>3</sup>, R Yamakawa<sup>4</sup> and B S Gan<sup>1</sup>**

<sup>1</sup>Department of Architecture, College of Engineering, Nihon University, Koriyama City, Fukushima 963-8642, JAPAN

<sup>2</sup>Department of Civil Engineering, Jendral Soedirman University, Blater, Purbalingga 53371, INDONESIA

<sup>3</sup>Department of Civil Engineering, Diponegoro University, Tembalang, Semarang 50275, INDONESIA

<sup>4</sup>Department of Architecture, Graduate School of Engineering, Nihon University, Koriyama City, Fukushima 963-8642, JAPAN

**1.4 *KN-106 Potential of ultra-high-performance concrete (UHPC) for refurbishment of bridges***

**Ekkehard Fehling<sup>1</sup>, Jenny Thiemicke<sup>1</sup>**

<sup>1</sup>Institute of Structural Engineering, University Kassel, Germany, Kurt-Wolters-Str. 3, D-34109, Kassel

**1.5 *KN-107 FIBRADIKE, a novel distributed fiber optic monitoring system for dikes and earth dams***

**Carlo Rabaiotti<sup>1</sup>, Alessio Höttges<sup>1</sup>, Massimo Facchini<sup>2</sup>, Isabel Bohren<sup>1</sup>**

<sup>1</sup>Eastern Switzerland University of Applied Sciences, OST

<sup>2</sup>Iridis Solutions GmbH

## **2 Structural Engineering (ST)**

### **2.1 *ST-021 An integrated approach for the strength evaluation on RC beams by the combination of hammer test and compression test***

**B A Hidayat<sup>1</sup>, Sukamta<sup>1</sup>, A L Han<sup>1</sup>, A N Ahyani<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Diponegoro, Semarang 50275, Indonesia

### **2.2 *ST-022 Improvement of structural performance of RC beams with external reinforcement method: an experimental investigation***

**Sukamta<sup>1</sup>, B A Hidayat<sup>1</sup>, S Tudjono<sup>1</sup>, A T Saputra<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Diponegoro, Semarang 50275, Indonesia

### **2.3 *ST-023 Comparison of flexural beam behavior due to monotonic loading and loading-unloading scheme***

**Bobby Rio Indriyantho<sup>1</sup>, Purwanto<sup>1</sup>, Muhammad Zulfikar Adhi<sup>1</sup>, Ricardo Pandiangan<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Diponegoro, Central Java, Indonesia

**2.4 *ST-035 Proposed maximum shear reinforcement vs confinement***

**Hadi Rusjanto Tanuwidjaja<sup>1</sup>, Euricky E Tanuwidjaja<sup>1</sup>, Grace Kurniawati Santoso<sup>2</sup>**

<sup>1</sup>Haerte Engineering Consultant

<sup>2</sup>Trisakti University Jakarta

**2.5 *ST-039 Bond strength between reinforcement and high volume fly ash-self compacting concrete (HVFA-SCC)***

**R K Rohman<sup>1</sup>, S A Kristiawan<sup>2</sup>, A Basuki<sup>2</sup>, and H A Saifullah<sup>2</sup>**

<sup>1</sup>Civil Engineering Doctoral Program, Faculty of Engineering, UNS Surakarta 57126, Central Java Province, Indonesia

<sup>2</sup>Civil Engineering Department, Faculty of Engineering, UNS Surakarta 57126, Indonesia

**2.6 *ST-043 Numerical modelling of reinforced concrete gravity retaining walls under seismic loads***

**B El Yamouni<sup>1</sup>, F El Khannoussi<sup>1</sup>, A Khamlichi<sup>1</sup>**

<sup>1</sup>Department of Industrial and Civil Sciences and Technologies, National School of Applied Sciences at Tetouan, Abdelmalek Essaadi University, Tetouan, Morocco

**2.7 *ST-047 The effects of various parameters in sensitivity analysis of plain concrete beam using rigid body spring model***

**Joko Purnomo<sup>1,3</sup>, Aylie Han<sup>1</sup>, Buntara Sthenly Gan<sup>2</sup>, Djwantoro Hardjito<sup>3</sup>**

<sup>1</sup>Department of Civil Engineering, Diponegoro University, Semarang, Indonesia

<sup>2</sup>Department of Architecture, Graduate School of Engineering, Nihon University, Koriyama, Japan

<sup>3</sup>Department of Civil Engineering, Petra Christian University, Surabaya, Indonesia

**2.8 *ST-050 Effect of ultra high performance fiber reinforced concrete (UHPFRC) layer thickness as a strengthening material for reinforced concrete beams***

**Nursyamsi Nursyamsi<sup>1</sup>, Johannes Tarigan<sup>1</sup>, Badorul Hisham Abu Bakar<sup>2</sup>, Harianto Hardjasaputra<sup>3</sup>**

<sup>1</sup>Departemen Teknik Sipil, Universitas Sumatera Utara, Medan 20155, Indonesia

<sup>2</sup>School of Civil Engineering, Universiti Sains Malaysia, Penang, Malaysia

<sup>3</sup>Program Studi Teknik Sipil, Universitas Pembangunan Jaya, Tangerang Selatan, Indonesia

**2.9 *ST-060 Flexural strength and drift ratio of reinforced concrete beams with longitudinal square hole***

**Sumiati<sup>1</sup>, Leonardus Setia Budi Wibowo<sup>2</sup>**

<sup>1</sup>Civil Engineering Department, Politeknik Negeri Sriwijaya, Indonesia

<sup>2</sup>Research Center for Structural Strength Technology, National Research and Innovation Agency, Indonesia

**2.10 *ST-068 Application of modified partial capacity design on six-story L-shaped reinforced concrete buildings with variations on elastic columns configurations***

**P Pudjisuryadi<sup>1</sup>, B Lumantarna<sup>1</sup>, C J Arcan<sup>1</sup> and H Pratama<sup>1</sup>**

<sup>1</sup> Department of Civil Engineering, Petra Christian University, Jalan Siwalankerto 121-131, Surabaya 60236, Indonesia

**2.11 *ST-078 Nonlinear finite element analyses of reinforced concrete beam-column joints subjected to cyclic loading***

**J Handoko<sup>1</sup>, A Gunawan<sup>1</sup>, J Chandra<sup>1</sup>, H Wibowo<sup>2</sup>**

<sup>1</sup>Civil Engineering Department, Petra Christian University, Jl. Siwalankerto 121-131, Surabaya, Indonesia

<sup>2</sup>Department of Civil, Construction, and Environmental Engineering, Iowa State University, 813 Bissell Road, Ames, Iowa, United States of America

**2.12 *ST-082 Shear strength predictions of reinforced concrete two-way thick slabs: comparison between experimental and analytical studies***

**R Zufarihsan<sup>1</sup>, A Tambusay<sup>1</sup>, P Suprobo<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Institut Teknologi Sepuluh Nopember, Campus ITS Sukolilo, Surabaya 60111, Indonesia

**2.13 *ST-083 Nonlinear analysis of interior and exterior beam-column connections under reversed cyclic loading***

**A Tambusay<sup>1,2</sup>, B Suryanto<sup>1</sup>, P Suprobo<sup>2</sup>, JJM Nelson<sup>1</sup>**

<sup>1</sup>Institute for Infrastructure and Environment, School of Energy, Geoscience, Infrastructure and Society, Heriot-Watt University, Edinburgh, United Kingdom.

<sup>2</sup>Department of Civil Engineering, Faculty of Civil, Planning and Geo Engineering, Sepuluh Nopember Institute of Technology, Surabaya, East Java, Indonesia.

**2.14 *ST-084 Embodied carbon dioxide of fly ash based geo polymer concrete***

**Agustinus Agus Setiawan<sup>1,2</sup>, Harianto Hardjasaputra<sup>1</sup>, Roesdiman Soegiarso<sup>2</sup>**

<sup>1</sup>Civil Engineering Department, Universitas Pembangunan Jaya, Banten, Indonesia

<sup>2</sup>Civil Engineering Doctoral Program, Universitas Tarumanagara, Jakarta, Indonesia



**2.15 *ST-086 Applying moment redistribution and externally bonded FRP in beams for seismic strengthening of RC frames***

**Junaedi Utomo<sup>1</sup>, Dinar Gumilang Jati<sup>1</sup>, Felix Adi Tanudjaja<sup>1</sup>, Han Ay Lie<sup>2</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Atma Jaya Yogyakarta, Jl. Babarsari 44 Yogyakarta, Indonesia

<sup>2</sup>Department of Civil Engineering, Universitas Diponegoro, Jl. Prof. Soedarto, SH. Tembalang, Semarang, Indonesia

**2.16 *ST-090 Structural evaluation of existing buildings using surface ground motions***

**Windu Partono<sup>1</sup>**

<sup>1</sup>Civil Engineering Department, Engineering Faculty, Diponegoro University, Semarang 50275, Indonesia

**2.17 *ST-091 Seismic performance assessment for RC buildings using pushover method and dynamic analysis***

**Sadvent Martondang Purba<sup>1</sup>**

<sup>1</sup> Department of Civil Engineering, Faculty of Science and Technology, Universitas Pelita Harapan (UPH), Indonesia

**2.18 *ST-094 Mechanical behaviours of cellular lightweight concrete using finite element analysis***

**Reni Suryanita<sup>1</sup>, Harnedi Maizir<sup>2</sup>, and Hari Saputra<sup>1</sup>**

<sup>1</sup>Civil Engineering Department, Universitas Riau, Indonesia

<sup>2</sup>Civil Engineering Department, Sekolah Tinggi Teknologi Pekanbaru, Indonesia

**2.19 *ST-096 Image processing analysis on a concrete defect inspection lists: state of the art literature review***

**Usman Wijaya<sup>1</sup>, E.M.O.N Haryanto<sup>2</sup>, Yogi Yulianto<sup>3</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Kristen Krida Wacana, Jl. Tanjung Duren Raya No. 4, Jakarta, 11470, Indonesia

<sup>2</sup>Department of Informatics, Faculty of Engineering, Universitas Janabadra, Jl. Tentara Rakyat Mataram No. 55-57, Bumijo, Jetis, Yogyakarta, 55231, Indonesia

<sup>3</sup>Department of Informatics, Faculty of Computer Science, Universitas Amikom Yogyakarta, Jl. Ringroad Utara, Condong Catur, Sleman, Yogyakarta, 55283, Indonesia

**2.20 *ST-104 Shared vibration absorbers for connected SDOF structures***

**Yoyong Arfiadi<sup>1</sup>, Richard Frans<sup>2</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Atma Jaya Yogyakarta, Indonesia

<sup>2</sup>Department of Civil Engineering, Universitas Atma Jaya Makassar, Indonesia

### **3 Construction Material (MA)**

#### **3.1 *MA-012 Properties evaluation of cold mix asphalt based on compaction energy and mixture gradation***

**P S Wulandari<sup>1</sup>, D Tjandra<sup>1</sup>**

<sup>1</sup>Civil Engineering Department, Petra Christian University, Indonesia

#### **3.2 *MA-019 Study of self compacting geopolymer concrete (SCGC) haunch beams at monotonic loading and loading-unloading scheme***

**Purwanto<sup>1</sup>, Nuroji<sup>1</sup>, Januarti Jaya Ekaputri<sup>2</sup>, Bobby Rio Indriyantho<sup>1</sup>, Rydell Riko<sup>1</sup>, Han Ay Lie<sup>1</sup>, Buntara Sthenly Gan<sup>3</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Diponegoro, Semarang, 50275, Indonesia

<sup>2</sup>Department of Civil Engineering, Institut Teknologi Sepuluh Nopember, Surabaya, 60111, Indonesia

<sup>3</sup>Department of Architecture, College of Engineering, Nihon University, Koriyama, 963-8642, Japan

#### **3.3 *MA-029 High early strength foamed concrete design for structural precast concrete***

**Ika Bali<sup>1</sup>, Jack Widjajakusuma<sup>2</sup>, Gino Pranata Ng<sup>2</sup>, Ricky Tjahjono<sup>2</sup>**

<sup>1</sup>Civil Engineering Department, President University, Indonesia

<sup>2</sup>Civil Engineering Department, Pelita Harapan University, Indonesia

**3.4 MA-049 *The effect of polypropylene fiber on the mechanical properties between hybrid fiber geopolymer concrete and geopolymer concrete in elevated temperature***

**F M Farida<sup>1,2</sup>, H Hardjasaputra<sup>3,4</sup>, A Surahman<sup>1</sup>, A Sofwan<sup>5</sup>, R R Mukti<sup>6</sup>**

<sup>1</sup>Civil Engineering Department, Institut Teknologi Bandung, Jl. Ganeca No. 10, Bandung, Indonesia, 40132

<sup>2</sup>Fire Safety Engineering, Universitas Negeri Jakarta, Jl. Rawamangun no. 11, Jakarta, Indonesia, 13220

<sup>3</sup>Civil Engineering Department, Universitas Pembangunan Jaya, Jl. Cendrawasih Raya Blok B7/P, Banten, Indonesia, 15413

<sup>4</sup>Civil Engineering Department, Universitas Pelita Harapan, Jl. M. H. Thamrin Boulevard 1100, Kelapa Dua, Tangerang, Banten, Indonesia, 15811

<sup>5</sup>LAPI, Institut Teknologi Bandung, Jl. Ganeca No. 10, Bandung, Indonesia, 40132

<sup>6</sup>Chemistry Department, Institut Teknologi Bandung, Jl. Ganeca No. 10, Bandung, Indonesia, 40132

**3.5 MA-054 The influence of low alkaline activator on the compressive strength and workability of geopolymer concrete**

**Eri Setia Romadhon<sup>1</sup>, Antonius<sup>2</sup>, Sumirin<sup>3</sup>**

<sup>1</sup>Doctoral student of Civil Engineering, Department of Civil Engineering, Universitas Islam Sultan Agung (UNISSULA), Semarang, Indonesia, [erimadhon63@gmail.com](mailto:erimadhon63@gmail.com)

<sup>2</sup>Professor of Civil Engineering, Department of Civil Engineering, Universitas Islam Sultan Agung (UNISSULA), Semarang, Indonesia, [antonius@unissula.ac.id](mailto:antonius@unissula.ac.id)

<sup>3</sup>Lecturer of Civil Engineering, Department of Civil Engineering, Universitas Islam Sultan Agung (UNISSULA), Semarang, Indonesia, [sumirinms@gmail.com](mailto:sumirinms@gmail.com)

**3.6 MA-055 The effect of asphalt emulsion type on the characteristics of cold asphalt emulsion mixtures**

**P S Wulandari<sup>1</sup>, K Lovrecia<sup>1</sup>, F M Santosa<sup>1</sup>, G A Welerubun<sup>1</sup>**

<sup>1</sup>Civil Engineering Department, Petra Christian University, Siwalankerto 121-131, Surabaya, Indonesia

**3.7 MA-056 Comparison of asphalt concrete-wearing course (AC-WC) characteristics using 60/70 asphalt penetration and Elvaloy modified asphalt**

**Adina Sari Lubis<sup>1</sup>, Zulkarnain Abdul Muis<sup>1</sup>, Muhammad Hafiz Irza<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Faculty of Engineering, Universitas Sumatera Utara, Indonesia

**3.8 MA-059 Analysis of geopolymers mortar compressive strength based on fly ash and GGBFS as patch repair material**

**Rahmi Karolina<sup>1,2</sup>, Johannes Tarigan<sup>3</sup>, Harianto Hardjasaputra<sup>4</sup>, Roy Andre Daniel Silalahi<sup>3</sup>**

<sup>1</sup>Doctoral Student Civil Engineering, Universitas Sumatera Utara, Medan 20155, Sumatera Utara, Indonesia

<sup>2</sup>Integrated Research Laboratory, Universitas Sumatera Utara, Medan 20155, Sumatera Utara, Indonesia

<sup>3</sup>Civil Engineering, Universitas Sumatera Utara, Medan 20155, Sumatera Utara, Indonesia

<sup>4</sup>Civil Engineering Department, Faculty of Engineering, Universitas Pembangunan Jaya

**3.9 MA-066 The use of cationic rapid setting emulsion cold asphalt mixtures for appropriate road rehabilitation**

**A Setyawan<sup>1</sup>, M Habiburrahman<sup>1</sup>, D Sarwono<sup>1</sup>, Suryoto<sup>1</sup>, M Rifai<sup>1</sup>, A Budiarto<sup>1</sup>**

<sup>1</sup>Roadmate Research Group, Universitas Sebelas Maret, Surakarta 57126, Indonesia

**3.10 MA-067 The characteristic of very high-performance concrete (VHPC)**

**M. Shahib Al Bari<sup>1</sup>, Andini Dwi Agustin<sup>1</sup>, Januarti Jaya Ekaputri<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Faculty of Civil, Planning and Geo Engineering, Institut Teknologi Sepuluh Nopember, Surabaya, 60111, Indonesia

**3.11 MA-073 Evaluation of bonding performance of ultra high-performance concrete with fly ash content as overlay on normal strength concrete.**

**A Kuncoro<sup>1</sup>, H D Pranoto<sup>1</sup>, L W Sacca<sup>1</sup>, E Tanojo<sup>1</sup>, Antoni<sup>1</sup>, D Hardjito<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Petra Christian University, Jl. Siwalankerto 121-131, Surabaya 60236, Indonesia

**3.12 MA-076 Ratio between flexural strength to compressive strength geopolymers concrete**

**Evin<sup>1</sup>, Rachmansyah<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Krida Wacana Christian University, Jakarta 11470, Indonesia

**3.13 MA-081 Compressive strength, porosity, and sorptivity of blended palm oil fuel ash (POFA) concrete containing silica fume in peat water**

**Monita Olivia<sup>1</sup>, Panca Setia Utama<sup>1</sup>, Steve Supit<sup>2</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Riau, Pekanbaru 28293 Indonesia

<sup>2</sup>Department of Civil Engineering, Politeknik Negeri Manado, Manado 95252 Indonesia

**3.14 MA-088 Stiffness modulus of reclaimed asphalt binder modified with local bio-rejuvenator in Indonesia (dynamic shear rheometer to van der poel nomograph test result)**

**Atmy Verani Rouly Sihombing<sup>1</sup>, Bambang Sugeng Subagio<sup>2</sup>, Eri Susanto Hariyadi<sup>2</sup>, Reza Phalevi Sihombing<sup>3</sup>**

<sup>1</sup>Department of Civil Engineering, Politeknik Negeri Bandung, Jl. Gegerkalong Hilir, Ciwaruga, Kec. Parongpong, Kabupaten Bandung Barat, Jawa Barat 40559, Indonesia

<sup>2</sup>Bandung Institute of Technology, Jl. Ganesa No.10, Lb. Siliwangi, Kecamatan Coblong, Kota Bandung, Jawa Barat 40132, Indonesia

<sup>3</sup>Department of Architecture, Institut Teknologi Nasional, Bandung, Jl. PH.H. Mustofa No.23, Bandung, Indonesia

**3.15 MA-089 The influence of viscosity modifying agent (VMA) and calcium carbonate on 3D printing mortar characteristics**

**A Antoni<sup>1</sup>, N Adi<sup>1</sup>, M E Kurniawan<sup>1</sup>, A Agraputra<sup>1</sup>, D Teopilus<sup>1</sup>, P Pudjisuryadi<sup>1</sup>, J Chandra<sup>1</sup>, D Hardjito<sup>1</sup>**

<sup>1</sup>Civil Engineering Departement of Petra Christian University, Jl. Siwalankerto 121-131, Surabaya, Indonesia

**3.16 MA-093 Experimental study on foam concrete as a sub-base layer of rigid pavement**

**Raihan Arditama Harnedi<sup>1</sup>, Harmein Rahman<sup>1</sup>, Harnedi Maizir<sup>2</sup>**

<sup>1</sup>Faculty of Civil and Environmental Engineering, Institut Teknologi Bandung, Bandung, Indonesia

<sup>2</sup>Civil Engineering Department, Sekolah Tinggi Teknologi Pekanbaru, Pekanbaru, Indonesia



**3.17 MA-095 *The influence of calcium oxide doses as an activator on the compressive strength and mechanical characteristics of cement-free mortar containing ground-granulated blast furnace slag***

**Herry Suryadi Djayaprabha<sup>1</sup>, Hermawan<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Parahyangan Catholic University, Bandung 40141, Indonesia.

**3.18 MA-099 *The quality assurance factors that affect the product quality performance: a case of the building X construction project in Jakarta***

**Lukas B. Sihombing<sup>1</sup>, George A. Sumurung<sup>2</sup>**

<sup>1</sup>Assistant Professor of the Civil Engineering, Universitas Pembangunan Jaya, Indonesia

<sup>2</sup>Student of the Civil Engineering Master's Degree Study Program, Universitas Pelita Harapan, Indonesia,

**3.19 MA-105 *Compressive strength, porosity, and density of mortar containing precipitated silica from palm oil fuel ash (POFA)***

**Monita Olivia<sup>1</sup>, Gunawan Wibisono<sup>1</sup>, Panca Setia Utama<sup>2</sup>, Steve Supit<sup>3</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Riau, Pekanbaru 28293 Indonesia

<sup>2</sup>Department of Civil Engineering, Universitas Riau, Pekanbaru 28293 Indonesia

<sup>3</sup>Department of Civil Engineering, Politeknik Negeri Manado, Manado 95252 Indonesia

## 4 Construction Management (CM)

### 4.1 *CM-002 Development of a program for automatic identification of productivity of construction workers*

**Ryuji KASAI<sup>1</sup>, Takashi GOSO<sup>2</sup>, Tetsuro OSAWA<sup>3</sup>**

<sup>1</sup>Department of Urban and Civil Engineering, Tokyo City University

<sup>2</sup>Associate Professor, Tokyo City University, Department of Urban and Civil Engineering

<sup>3</sup>Graduate School of Integrative Science and Engineering

### 4.2 *CM-005 Integrated analysis approach to structure PPP schemes for new infrastructure projects*

**T Onishi<sup>1</sup>, K Miyamoto<sup>2</sup>, T Goso<sup>3</sup>**

<sup>1</sup>Consultant, PPP Management Dept., Pacific Consultants Co., Ltd., Tokyo, Japan

<sup>2</sup>Advisory Executive, Pacific Consultants, Co. Ltd., Tokyo, Japan

<sup>3</sup>Associate Professor, Department of Urban and Civil Engineering, Tokyo City University, Tokyo, Japan

### 4.3 *CM-017 Questionnaire on employee awareness of disaster mitigation measures in municipal governments*

**T Goso<sup>1</sup>, T Kakuzaki<sup>2</sup>**

<sup>1</sup>Associate Professor, Department of Urban and Civil Engineering, Tokyo City University, Tokyo, Japan

<sup>2</sup>Expert adviser, GOSEI Co., Ltd., Kagawa, Japan

#### **4.4 *CM-037 A conceptual framework for integrating QSHE in construction***

**Andreas Partogi Silalahi<sup>1</sup>, Jack Widjajakusuma<sup>1</sup>, Michael Sofian Tanuhendrata<sup>1</sup>, Akhmad Suraji<sup>2</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Pelita Harapan, The Plaza Semanggi, Jakarta, Indonesia

<sup>2</sup>Department of Civil Engineering, Universitas Andalas, Limau Manis, Padang, Indonesia

#### **4.5 *CM-041 Accident prevention of high occupied building through safety audit: a readiness perspective in the university buildings***

**F Hermawan<sup>1,2</sup>, A N Pratiwi<sup>1</sup>, T Susanto<sup>1</sup> and J U D Hatmoko<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Diponegoro University, Semarang, 50275, Indonesia

<sup>2</sup>Center for Green Infrastructure Resilience Development (C-GREINDE), Post Graduate School, Diponegoro University, Semarang, 50241, Indonesia

#### **4.6 *CM-042 Stakeholders' readiness in implementing regulation on affordable public housing: a case study in Pemalang Regency, Central Java***

**F Hermawan<sup>1,3</sup>, A D Prihantini<sup>1</sup>, H Suliantoro<sup>2</sup>**

<sup>1</sup>Department of Civil Engineering, Diponegoro University, Semarang, 50275, Indonesia

<sup>2</sup>Department of Industrial Engineering, Diponegoro University, Semarang, 50275, Indonesia

<sup>3</sup>Center for Green Infrastructure Resilience Development (C-GREINDE), Post Graduate School, Diponegoro University, Semarang, 50241, Indonesia

## **5 Infrastructure Engineering (IE)**

### **5.1 *IE-003 An overview of motivators and challenges of passive design strategies***

**Nor Aqilah Haji Juffle<sup>1</sup>, Md Motiar Rahman<sup>2</sup>**

<sup>1</sup>Ph.D Candidate, Civil Engineering Programme Area, Faculty of Engineering, Universiti Teknologi Brunei, Brunei Darussalam.

<sup>2</sup>Associate Professor, Civil Engineering Programme Area, Faculty of Engineering, Universiti Teknologi Brunei, Brunei Darussalam.

### **5.2 *IE-007 Introduction of business continuity plan for small and medium-sized local construction companies and restoration activities in Japan in the event of natural disasters***

**I Okuno<sup>1</sup>, T Goso<sup>2</sup>**

<sup>1</sup>Tokyo City University, Graduate School of Integrative Science and Engineering

<sup>2</sup>Associate Professor, Department of Urban and Civil Engineering, Tokyo City University, Tokyo, Japan

**5.3 *IE-028 Accessible pedestrians for educational setting design evaluation: case study in Surabaya and Bandung City, Indonesia and Brisbane City, Australia***

**Robby Yussac Tallar<sup>1</sup>, Gunawan Tanuwidjaja<sup>2,3</sup>, Joyce Martha Widjaya<sup>4</sup>, Rina Razafimahefa<sup>5</sup>**

<sup>1</sup>Civil Engineering Study Program, Faculty of Engineering, Maranatha Christian University, Jl. Surya Sumantri No.65, Bandung, Indonesia

<sup>2</sup>Architecture Study Program, Faculty of Civil Engineering and Planning, Petra Christian University, Jl. Siwalankerto 121-131, Surabaya, Indonesia

<sup>3</sup>School of Architecture and Built Environment, Engineering Faculty, Queensland University of Technology, 2 George Street, Brisbane, Australia

<sup>4</sup>Civil Engineering Study Program, Faculty of Civil Engineering and Planning, Petra Christian University, Jl. Siwalankerto 121-131, Surabaya, Indonesia

<sup>5</sup>School of Public Health and Social Work, Health Faculty, Queensland University of Technology, 2 George Street, Brisbane, Australia

**5.4 *IE-030 Infrastructure development strategy based on the accessibility to tourism location (case study of Bali Province-Indonesia)***

**P A Suthanaya<sup>1</sup>, R Suwarningsih<sup>1</sup>**

<sup>1</sup>Civil Engineering, Faculty of Engineering, Udayana University, Bali, Indonesia

**5.5 *IE-034 The application of high-grade steel to the road barrier design for the construction project cost efficiency***

**Gunadi Soekardjo<sup>1</sup>, G Aji Sentosa<sup>2</sup>, Arry Aryadi<sup>3</sup>, Eri Dwi Wibawa<sup>4</sup> Erwin Batubara<sup>5</sup>, Trianto Puguh Widodo<sup>6</sup>, Annisa Dewanti Putri<sup>6</sup>**

<sup>1</sup>Operation Director I PT Hutama Karya (Persero)

<sup>2</sup>Executive Vice President of System, IT, and Technology Research Division, PT Hutama Karya (Persero)

<sup>3</sup>President Director of PT Bhirawa Steel, Hutama Karya Subsidiary, Surabaya, Indonesia

<sup>4</sup>Vice President of Research and Technology, PT Hutama Karya (Persero),

<sup>5</sup>Sr. Manager Production, PT Bhirawa Steel, Hutama Karya Subsidiary, Indonesia, <sup>6</sup>Researcher of Method & Construction Technology, System, IT, and Technology Research Division, PT Hutama Karya (Persero), Jakarta, Indonesia

**5.6 *IE-044 Effect of bed shear stress on the mobile armor layer at the riverbed***

**Arlendenovega S Negara<sup>1,3</sup>, Cahyono Ikhsan<sup>2</sup>, Rr. Rintis Hadiani<sup>2</sup>, Yusep M Purwana<sup>2</sup>**

<sup>1</sup>Doctoral Program in Civil Engineering, Faculty of Engineering, Universitas Sebelas Maret, Jl. Ir. Sutami 36A Kentingan, Surakarta, Central Java, 57126, Indonesia

<sup>2</sup>Department of Civil Engineering, Faculty of Engineering, Universitas Sebelas Maret, Jl. Ir. Sutami 36A Kentingan, Surakarta, Central Java, 57126, Indonesia

**5.7 *IE-046 Corrosivity of water for concrete and metal water resources infrastructure with modification of the DIN method and langelier saturation index of Metcalf and Eddy***

**Devita Satya Lestari<sup>1</sup>, Eng. Sukamta<sup>2</sup>, Yunitta Chandra Sari<sup>3</sup>**

<sup>1</sup>Super specialist master program operation and hydrometeorology of dam, Departement of Civil Engineering, Diponegoro University, Semarang, Central Java, Indonesia

<sup>2</sup>Civil Engineering Master Program, Diponegoro University, Semarang, Central Java, Indonesia

<sup>3</sup>Head of Sub Directorate of Integrated Water Resources Management Schemes, Directorate General of Water Resources, Ministry of Public Works and Housing, Special Capital Region of Jakarta, Indonesia

**5.8 *IE-048 Study on the conditions for setting target prices in Japanese grant aid projects***

**H Takatsu<sup>1</sup>, T Goso<sup>1</sup>**

<sup>1</sup>Department of Urban and Civil Engineering, Tokyo City University, 1-28-1 Tamazutsumi, Setagaya-ku, Tokyo 158-8557, Japan

**5.9 *IE-053 Analysis of drainage system to avoid rainwater overflow on the access road to Juanda Airport***

**Adams Nur Oktalinov Fikri<sup>1</sup>, Hanie Teki Tjendani<sup>1</sup>, Wateno Oetomo<sup>1</sup>**

<sup>1</sup>Magister Teknik Sipil, Magister Teknik Sipil, Fakultas Teknik, Universitas 17 Agustus 1945 Surabaya, Indonesia.

**5.10 IE-057 Deployment and use of artificial intelligence (AI) in water resources and water management**

**Sakti Prajna Mahardhika<sup>1</sup>, Okkie Putriani<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Universitas Atma Jaya Yogyakarta, Indonesia

**5.11 IE-064 Travel behavior intention during the COVID-19 pandemic**

**Rhapyalyani Herno Della<sup>1</sup>, Rizma Adlia Syakurah<sup>2</sup>, Erika Buchari<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering and Planning, Sriwijaya University, Indonesia.

<sup>2</sup>Department of Public Health Science, Sriwijaya University, Indonesia.

**5.12 IE-065 Modeling a long-term operation and maintenance for a campus complex**

**Peter F. Kaming<sup>1</sup>, I Made Sudana<sup>2</sup>, Ferianto Raharjo<sup>3</sup>, and Nectaria P. Pramesti<sup>4</sup>**

<sup>1</sup>Faculty of Engineering, Universitas Atma Jaya Yogyakarta, Babarsari 44, Yogyakarta, Indonesia

<sup>2</sup>Mechanical Engineering, Politeknik Negeri Bali, Denpasar, Bali, Indonesia

<sup>3</sup>Faculty of Engineering, Universitas Atma Jaya Yogyakarta, Babarsari 44, Yogyakarta, Indonesia

<sup>4</sup>Ph.D student in Civil Engineering, Department of Civil and Environment Engineering, Faculty of Engineering, Universitas Gadjah Mada, Jalan Grafika no.2 Komplek UGM, Yogyakarta, Indonesia



**5.13 *IE-070 Structural equation modelling of drivers' speeding behaviour in Surabaya, Indonesia***

**R Setiawan<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Faculty of Civil Engineering and Planning, Petra Christian University, Jl. Siwalankerto 121-131, Surabaya, Indonesia, 60236

**5.14 *IE-071 Developing trading information system to reduce queuing time and environmental damage at the entrance of Boombaru Port, Palembang, Indonesia***

**H Haruno<sup>1</sup>, E Buchari<sup>2</sup>**

<sup>1</sup>Engineering Sciences Study Program, Doctor of Philosophy Program, Engineering Faculty, Sriwijaya University, Indonesia

**5.15 *IE-075 Solution to the traffic problems of long and deep water straits—smart submerged floating tunnel and its research***

**Y Q Xiang<sup>1,2</sup>, J Chen<sup>3</sup>, Y G Shen<sup>1,2</sup>, Y S Yang<sup>1,2</sup>**

<sup>1</sup>College of Civil and Architectural Engineering, Zhejiang University, 310058, Hangzhou, China

<sup>2</sup>Research Center for Submerged Floating Tunnel, CCEA, Zhejiang University, 310058, Hangzhou, China

<sup>3</sup>Zhejiang Communications Construction Group Co. LTD. 310051, Hangzhou, China

**5.16 *IE-080 Climate change effect on water balance for water critically in Upper Bogowonto Watershed, Indonesia***

**Kurniyaningrum, E<sup>1</sup>, Kurniawan, M.A.<sup>2</sup>**

<sup>1</sup>Department of Civil Engineering, Faculty Civil Engineering and Planning, Trisakti University

<sup>2</sup>Centre of Ground Water & Raw Water, Directorate General of Water Resources (DGWR), Ministry of Public Works and Housing (MPWH)

**5.17 *IE-092 Analysis capacity of U-turn movement at median opening using microsimulation PTV Vissim (case study: median opening Jl. Prof. Soedarto, SH. Tembalang, Semarang, Indonesia)***

**M B U Al Karimi<sup>1\*</sup>, B Haryadi<sup>2</sup>, B H Setiadji<sup>1</sup>**

<sup>1</sup>Department of Civil Engineering, Faculty of Engineering, Diponegoro University  
Jl. Prof. Soedarto, SH., Tembalang, Semarang, Indonesia, 50275

<sup>2</sup>Department of Civil Engineering, Faculty of Engineering, Semarang State University, Sekaran, Gunung Pati, Semarang, Indonesia, 50229

**5.18 *IE-102 Disaster risk and mitigation in spontaneous settlement along the riverbanks in Indonesian cities***

**Paulus Bawole<sup>1</sup>, Imelda Irmawati Damanik<sup>1</sup>**

<sup>1</sup>The Faculty of Architecture and Design, Duta Wacana Christian University

## 6 Geotechnical Engineering (GT)

### 6.1 *GT-058 Additional lateral soil pressure on soil due to the vehicle at a constant speed*

Iman Handiman<sup>1</sup>, I Wayan Rendana<sup>2</sup>, Anisa Maria Hidayanti<sup>2</sup>, I Ketut Sudarsana<sup>2</sup>

<sup>1</sup>Departement of Civil Engineering Faculty of Engineering, Siliwangi University

<sup>2</sup>Departement of Civil Engineering Faculty of Engineering, Udayana University

### 6.2 *GT-061 Liquefaction severity assessment for Anutapura Medical Center area of Palu-Indonesia*

Minson Simatupang<sup>1</sup>, Romy Suryaningrat Edwin<sup>1</sup>, Sulha<sup>1</sup>

<sup>1</sup>Department of Civil Engineering, University of Halu Oleo, Kampus Baru Anduonohu, Kendari 93232, Indonesia

All accepted and presented papers will be published in the **IOP Conference Series: Earth and Environmental Science** indexed by **SCOPUS** and **Others**.

<https://iopscience.iop.org/journal/1755-1315>

## E-POSTER

**Application Of Horizontal Directional Drilling (HDD) Method to Piping Installations in Dense Urban Environments (Spam Bandar Lampung, SKTT 150KV Karet-Kebon Jeruk)**

Arif Sasmito

PT. Djakarta Global Solusindo & Trisakti University

---

**Hydrological & Hydroclimatology Observations in Irrigation Area to Support Irrigation Modernization**

Fakhri Kalbuadi

PT. Indra Karya (Persero) & Trisakti University

---

**Modified Clay Material as An Alternative Coating Wall Materials**

Lisa Andhika Putri

PT. Trimitra Cipta Kreasi & Trisakti University

---

**Geotechnical Study to Determine Slope Safety Factors in the North Pit Coal Mining PT. Golden Great Borneo**

Indra Muzeiyin Nasution

PT. Cahaya Riau Mandiri & Trisakti University

---

**Engineering Planning Konstruksi Sarang Laba-Laba SMPN 260 Kepulauan Seribu DKI Jakarta**

Febriana Saputri

PT. Jaya Konstruksi & Trisakti University

**Implementation of Precast Beam and Slab in The Indonesian International Islamic University (IIU) Library Building Construction**

Hobert Mangatur Melkysedek  
PU & Trisakti University

---

**Rukuwa Su-District Beach Security in Anticipating Seasonal Wave Overtopping**

La Hasrudin  
Trisakti University

---

**Planning And Operation Bus Rapid Transit (BRT) of The Salatiga City**

Dwian Faizal Wijayanto  
PT. Palagan Prima Ecotrans & Trisakti University

---

**Implementation of HDPE Pipe Planting Work Using the HDD (Horizontal Drilling Driving) Method at the Jatiluhur 1 SPAM Project**

Andre Tampubolon  
PT. Jaya Konstruksi & Trisakti University

---

**Reinforcement of The Embankment with Retaining Walls Using Mechanically Stabilized Earth Wall (MSE Wall)**

Andi Mukti Widayanto, Sugesti Adinanesa  
PT. Arkonin Engineering & Trisakti University

---

**The Effect of Geocomposite Materials on Flexible Pavement Recoating**

Muhammad Farizan Prahara  
PT. Arkonin Engineering & Trisakti University

---

**Implementation High Performance Concrete in Dump Hopper Oprit Rehabilitation**

Deni Yudistira  
Density Utama Jaya & Pelita Harapan University

**Analysis Of Drainage System to Avoid Rainwater Overflow on The Access Road to Juanda Airport**

Adams Nur Oktalinov Fikri, Hanie Teki Tjendani, Wateno Eotomo  
University of 17 August 1945 Surabaya

---

**A Revolutionary Way to Build a House**

DOMUS  
Tata Logam Lestari

---

**The Best Tile for The Perfect Building**

MULTI SIRAP  
Tata Logam Lestari

---

**Taso Offerings for The Good of Nature**

TASO  
Tata Logam Lestari

---

**Pattern Of Building Mass Laying and Arrangement of Outer Areas of Puskesmas X**

Honesti Sarumaha  
CV. Density Utama Jaya

---

**Innovation Of SCC (Self Compacting Concrete) Concrete to Normal Concrete**

Isnaeni Aprilia  
Trisakti University

For detailed list of e-Poster, please find it on the website:

[https://eacef.com/?page\\_id=2889](https://eacef.com/?page_id=2889)



SUPPORTED BY:

SPONSORED BY:  
GOLD SPONSORS



STANDARD SPONSORS



PT MULTIGUNA JAYA MANDIRI

