

# BEI-KU

## International Workshop on Structural and Infrastructure Engineering

Venue: Building 9 (อาคารบุญธรรม สุวิวัฒน์) Faculty of Engineering, Kasetsart University

Date : March 7, 2025 (Friday)

Time	Topic	Speaker	Moderator
9.00 – 9.10	Opening Remarks and Group Photos	Suphawut Malaikrissanachalee Kasetsart University	Jirat Teeparaksa Nattapas Khumsuprom Kasetsart University
9.10 – 9.15	Bridge Engineering Institute, USA	Yail Jimmy Kim, University of Colorado Denver	Jirat Teeparaksa Nattapas Khumsuprom Kasetsart University
9.15 – 9.40	Cellular Automata and Complexity-Based Modeling for Bridge Structures	Yail Jimmy Kim, University of Colorado Denver	Jirat Teeparaksa Nattapas Khumsuprom Kasetsart University
9.40 – 10.05	Cement Stabilization of Dredged Sediments from Drainage Canals: Effect On Physico-Chemical Properties	Supakij Nontananandh Kasetsart University	Jirat Teeparaksa Nattapas Khumsuprom Kasetsart University
10.05 – 10.30	Tea Break		
10.30 – 10.55	Wide-range ultrasonic testing for grout inspection in post-tensioned PC bridges	Isamu Yoshitake Yamaguchi University	Yail Jimmy Kim, University of Colorado Denver
10.55 – 11.20	Analyzing National-scale Level of Service for Thailand Highway Network using Spatial Data Techniques	Suphawut Malaikrissanachalee Kasetsart University	Yail Jimmy Kim, University of Colorado Denver
11.20 – 11.45	Multiscale characterisation of cementitious materials for Structural Efficiency	Sorn Vimonsatit Macquarie University	Yail Jimmy Kim, University of Colorado Denver
11.45 – 12.10	Excavation for Basement Construction in Bangkok Clay with Interbedded Sand Layers Adjacent to the Chao Phraya River	Jirat Teeparaksa Kasetsart University	Yail Jimmy Kim, University of Colorado Denver
12.10 – 12.15	Closing Remarks	Suphawut Malaikrissanachalee Kasetsart University	

Organizers:

- 1) Associate Professor Dr.Supakij Nontananandh
  - 2) Associate Professor Dr.Suphawut Malaikrissanachalee
- Department of Civil Engineering, Kasetsart University



**Yail Jimmy Kim**, Ph.D., P.Eng. F.ACI  
Professor, Department of Civil Engineering  
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President, Bridge Engineering Institute  
An International Technical Society

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**Presentation Title:**

**Cellular Automata and Complexity-  
Based Modeling for Bridge Structures**

Dr. Jimmy Kim is President of the Bridge Engineering Institute, An International Technical Society, and a Professor in the Department of Civil Engineering at the University of Colorado Denver, CO, USA. He was past Chair of the American Concrete Institute (ACI) Committee 345, Concrete Bridge Construction and Preservation, from 2012 to 2018, and ACI Subcommittee 440-I, FRP-Prestressed Concrete, from 2013 to 2023. Dr. Kim is an active member of numerous technical committees and scientific/organizing committees of renowned international conferences, as well as an elected council member of the International Institute for FRP Composites in Construction (IIFC). He is the recipient of a number of awards from institutional, national, and international competitions, including the Excellence in Research and Creative Activities Award by the University of Colorado Denver (highest recognition at the campus level, awarded to one faculty per year), and the Chester Paul Siess Award for Excellence in Structural Research (the highest research award in structural concrete bestowed by the American Concrete Institute). His research interests encompass advanced composite materials for rehabilitation, structural informatics, complex systems, and science-based structural engineering, including statistical, interfacial, and quantum physics. He is the author of 13 books and 212 journal papers. He serves as an Associate Editor and member of editorial boards of international journals. He is the sole author of AASHTO Guide Specifications for Bridges Carrying Light Rail Transit Loads. Dr. Kim is a Fellow of the American Concrete Institute.



## Supakij Nontananandh

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Associate Professor,  
Department Civil of Engineering  
Kasetsart University, Bangkok, Thailand

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### **Presentation Title:**

**Cement Stabilization of Dredged  
Sediments From Drainage Canals: Effect  
On Physico-Chemical Properties**

A/Prof Supakij Nontananandh joined Department of Civil Engineering, Kasetsart university in June 1991. He graduated with a Bachelor of Engineering in Civil Engineering with first-class honors from Kasetsart University, Thailand. He later received a Japanese Government Scholarship (MONBUSHO) and pursued both his Master's and Doctoral degrees in Civil Engineering at Kyoto University, Japan. He has been teaching and working as a geotechnical engineer for over 30 years. He is an expert in soil improvement for construction projects in the field of public infrastructure, such as dams and roads. His research focuses on environmental geotechnical engineering, with an emphasis on soil improvement using environmentally friendly materials such as cement and lime and the reutilization of industrial waste, producing numerous contributions in this area. His notable in-depth research involves the study of reaction mechanisms in cement-treated soil, which enhances the efficiency of strength development in such materials.



## **Isamu Yoshitake**

Professor, Department of Civil and Environmental Engineering, Yamaguchi University, Japan

[Yoshitake-E](#)

Vice President, Bridge Engineering Institute  
An International Technical Society

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### **Presentation Title:**

**Wide-range ultrasonic testing for grout inspection in post-tensioned PC bridges**

Dr. Yoshitake is a Professor of the Department of Civil and Environmental Engineering and is the Chief-director of the Education and Research Center for Infrastructure Management of Yamaguchi University, Yamaguchi, Japan. He received his B.Eng. (1996), M.Eng. (1998), and D.Eng. (2000) degrees from Yamaguchi University. His research interests include the durability of concrete, reinforced & prestressed concrete structures, and advanced strengthening materials such as FRP. He is a member of the American Concrete Institute (ACI), International Institute for FRP in Construction (IIFC), Japan Concrete Institute (JCI), Japan Society of Civil Engineers (JSCE), and Japan Society of Material Science (JSMS). Prof. Yoshitake has been the vicepresident of Bridge Engineering Institute (BEI) since 2018, and a council member of IIFC since 2018. In addition, prof. Yoshitake is the vice-president of Clinical Institute for Tunnels & Tunneling (CITT) in Japan.



## **Suphawut Malaikrissanachalee**

Associate Professor,  
Department of Civil Engineering  
Kasetsart University, Bangkok, Thailand

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Head of department, Department of Civil  
Engineering, Kasetsart University

<https://ce.eng.ku.ac.th/>

### **Presentation Title:**

**Analyzing National-scale Level of  
Service for Thailand Highway Network  
using Spatial Data Techniques**

Assoc.Prof.Dr.Suphawut Malaikrissanachalee has been a faculty member in the Department of Civil Engineering at Kasetsart University since 1996. He graduated with a Bachelor of Engineering in Civil Engineering from Kasetsart University, Thailand. He later received a Thai Government Scholarship and pursued both his Master's and Ph.D. in Geospatial Information Engineering from the University of Wisconsin–Madison in 2005. He began his academic career focusing on various civil engineering disciplines, including Geographic Information System (GIS), traffic network analysis, geospatial data management, and construction optimization. From February 2019, he has served as the Head of the Department of Civil Engineering at Kasetsart University, contributing to the academic and administrative development of the department. His research includes analyzing the response of flexible pavement structures under diverse axle load configurations and advancing lane-based traffic network modeling techniques. These contributions have enhanced the accuracy of traffic management and data analysis in urban infrastructure. He continues to play a vital role in the advancement of civil engineering research and education in Thailand, emphasizing innovative approaches to complex engineering challenges.



## **Sorn Vimonsatit**

Associate Professor, School of Engineering  
Macquarie University, Sydney, NSW, Australia

[Sorn Vimonsatit - Macquarie University](#)

Director, Bridge Engineering Institute

An International Technical Society

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### **Presentation Title:**

**Multiscale Characterisation of  
Cementitious Materials for Structural  
Efficiency**

A/Prof Vanissorn Vimonsatit (or Sorn) joined the Macquarie School of Engineering, Civil Engineering in February 2020. Sorn received a Bachelor of Engineering in Civil Engineering from Kasetsart University, Thailand, Master of Engineering in Structural Engineering from Asian Institute of Technology, Thailand, and PhD from the University of New South Wales, Australia. Sorn has a broad range of experience in research and engineering practices in the construction industry. Sorn worked as a practicing structural engineer for over 10 years in the design and construction of tall buildings, then worked as an academic at Curtin University for 12 years before joining Macquarie University. Her research interests are AI for material and structural design, buildability, construction materials, multiscaling, structural engineering, and sustainability.



## Jirat Teeparaksa

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Assistant Professor,  
Department Civil of Engineering  
Kasetsart University, Bangkok, Thailand

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### **Presentation Title:**

**Excavation for Basement Construction  
in Bangkok Clay with Interbedded Sand  
Layers Adjacent to the Chao Phraya  
River**

Assist.Prof.Jirat Teeparaksa has been a faculty member in the Department of Civil Engineering at Kasetsart University since December 2021. He earned a Bachelor's Degree in Civil Engineering from Chulalongkorn University in 2011 and a Master's Degree in Soil Mechanics from Imperial College London in 2012. Dr. Teeparaksa began his professional career as a Geotechnical Engineer at Strategia Engineering Consultants Co., Ltd., where he contributed to underground excavation design projects and impact assessments for MRT tunneling. In 2014, he was awarded the Japanese Government Scholarship (Monbukagakusho: MEXT) to pursue his PhD in Geotechnical Engineering at the University of Tokyo, which he completed in 2017. Following his doctorate, he returned to the private sector, leading geotechnical design for notable projects in Bangkok, such as True Digital Park, One Bangkok, and Dusit Central Park. In addition to his academic and professional roles, he serves on the Geotechnical Engineering Subcommittee of the Engineering Institute of Thailand (EIT). His research focuses on excavation projects and pile foundations in Bangkok, emphasizing back analysis and case studies, providing valuable insights into the challenges and advancements in urban geotechnical engineering.