

Challenges with  
Design & Analysis of  
High End Bridges

October, 2014

2014 Seminar for  
Bridge Engineering

# MIDAS

# TECHNICAL WAVE

# in Vietnam

Organized by

MIDAS Information Technology Co., Ltd, Korea

In association with

HCMC University of Transport

University Transport and Communications

Vietnam Expressway Consultant Joint Stock Company

Sponsored by

Korea Trade-Investment Promotion Agency



# MIDAS TECHNICAL WAVE

in Vietnam

## Ho Chi Minh City

HCMC University of Transport,  
Oct 21<sup>st</sup>, 2014

### Register :

<http://en.midasuser.com/seminar>

## About this Seminar

This seminar on Challenges with Design & Analysis of High End Bridges provides an inside look at the design and construction works of various significant projects in Vietnam by leaders in bridge engineering. Each session will also highlight the latest technologies and methods to overcome challenges associated with detailed structural analysis.

The purpose of this seminar is to set the stage for leaders of engineering and project management to speak about their projects and the advanced engineering methods. Key-notes and technical sessions will be provided for the benefit of our attendees. As a special benefit, VIP attendees will have the chance to personally meet MIDAS IT members and get exclusive technical resources which are available only to them.

This seminar will bring together practicing bridge engineers, so you can benefit from this large gathering by developing your professional network. Connect with new faces to share your knowledge and improve the engineering practice.

## PROGRAM.

### Session I. Pre - Seminar

08:00-09:00	Registration	
09:00-09:10	Opening ceremony	MIDAS IT
09:10-09:20	Welcome Address	Prof. Nguyen Van Thu (President of HCMC. UT)
09:20-09:30	Donation ceremony	MIDAS IT / HCMUTRANS

### Session II. Key Note Speech

09:30-10:10	The latest technology trends in Bridge engineering in Vietnam	Prof. Dr. Nguyen Ba Hoang (Vice-President of HCMC. UT)
10:10-10:40	Application of midas Civil & midas FEA on Analyzing of some Special Bridge Structures in Vietnam	MSc. Nguyen Van Lam (VEC Consultant)
10:40-11:00	<i>Refreshment Break</i>	

### Session III. Technical Speech

11:00-11:40	midas Civil Application into Calculating and Checking Bridge Structure at Some Projects in Vietnam	MSc. Vu Thanh Quang (Ministry of Transport)
11:40-12:20	Analysis and Design of Cable Stayed Bridge with midas Civil	MSc. Pham De (Lecturer of HCMC. UT)
12:20-13:00	Using of midas Civil for Design of Cantilever Balanced Prestressed Concrete Bridge (SaiGon 2 Bridge Project)	Msc. Le Hoai Le (B.R Design Consultant)
13:00-13:20	Closing ceremony (Prize lottery)	MIDAS IT / HCMUTRANS

### Session IV. VIP Banquet

13:20-15:00	As a special part of the seminar, VIP attendees will have the chance to personally meet MIDAS IT members and get exclusive technical resources which are only available to them.	MIDAS IT Consultants
-------------	--	----------------------

# Presenters

## Speakers' Presentation & Profile

### Ho Chi Minh City

HCMC University of Transport,  
Oct 21<sup>st</sup>, 2014

### Register :

<http://en.midasuser.com/seminar>



### The latest technology trends in Bridge engineering in Vietnam

by Prof. Nguyen Ba Hoang

This presentation will cover the main issues on bridge engineering in Vietnam such as current situation, difficult problems must be handled with detail FE analysis. The latest trend in design methods and control structures during construction will also be introduced.

Prof. Nguyen Ba Hoang is Vice-President of HCMC University of Transport, Vietnam.

Ho Chi Minh City University of Transport (UT-HCMC) is proud to be one of the three leading universities in Vietnam and the only university in the South of Vietnam providing education and training services in maritime and transportation industries. UT-HCMC is a specialized institution in the South of Vietnam that offers students with undergraduate and post graduate training programs in Navigation, Marine Engineering, Sea Transport Economics, Naval Architecture, Electrical & Electronic Engineering and Telecommunication, Information Technology, Civil Engineering, and Mechanical Engineering



### Application of midas Civil and midas FEA on Analyzing of some Special Bridge Structures in Vietnam

by MSc. Nguyen Van Lam

This presentation will cover Heat of hydration and Local Stress Analysis; Suspension and Cable stayed bridge design. Advantages of MIDAS software in comparison with other equivalent software will also be presented.

- Bridge & Tunnel engineer, graduated Hanoi University of Transport and Communications 2003;
- Master of Computational Mechanics of Continuum, graduated University of Liege (Belgium) 2007;
- Working experience: 05 years working for HECO-TEDI, 06 years working for VEC Consultant;
- Current position: Manager of Technical and Project Development Department - VEC Consultant;
- Typical project experience: (1) Bridge design team leader of Hong and Lo river bridges (Noi Bai-Lao Cai expressway project); (2) Project team leader of Thu Thiem 2 cable stayed bridge in HCMC (FS stage); (3) Project team leader of Ben Tat suspension bridge in Quang Tri province); (4) Local bridge team leader of the Ben Luc - Long Thanh expressway project in HCMC, a project includes 20 bridges with differential types, total bridge length is 22km within 57 km total project length, there are 02 cable stayed bridges are Binh Khanh (187+375+187m) and Phuoc Khanh (150+300+150m); (5) Technical manager for appraisal work of New Viet Tri bridge; (6) Independent checking for Superstructures of Long Bien flyover (Steel and concrete composite bridge) and Tra Ly extradosed bridge.



### midas Civil Application into Calculating and Checking Bridge Structure at Some Projects in Vietnam

by MSc. Vu Thanh Quang

midas Civil software is being used generously in the world and Vietnam. It's used easily with many preeminent features in calculating and checking simple and complex structures. Therefore, It helps design engineers to curtail time as well as effort in design process. In the presentation, I will introduce midas Civil software's application in calculating and checking bridge structure at some projects in Vietnam.

- Bridge and Road Department, graduated National University of Civil Engineering (NUCE) 2010;
- Master of Bridge and Tunnel, graduated National University of Civil Engineering (NUCE) 2013;
- Working experience in TECC01-CIENCO1 2010-2012;
- Current position : Technical and Appraisal Department - Project Management Unit No.6 - Ministry of Transport
- Project experience: (1)"Calculate safety of preventing fire in the periods of work construction and design" Report at Tokyo University of Science, 10/2011 in Tokyo, Japan; (2)"To research on Midas/Civil software's application into calculating and auditing structure of continuous bridge by the method of envelope diagram (to apply calculation for Qui Cao bridge) - Posted in The magazine for Bridge and Road of Viet Nam, No.11/2011; (3) "To research on structural composite girder between steel beams with reinforced concrete slab beams frame form in the urban", Thesis of Technical Master - National University of Civil Engineering, 6/2013

# Presenters

## Speakers' Presentation & Profile

### Ho Chi Minh City

HCMC University of Transport,  
Oct 21<sup>st</sup>, 2014

#### Register :

<http://en.midasuser.com/seminar>



### Analysis and Design of Cable Stayed Bridge with midas Civil

by MSc. Pham De

Mr. Pham De will present about unknown load factor tool for adjusting the internal forces of cable-stayed bridge. This presentation also will cover various applications using midas Civil in bridge design and analysis.

- Received his Civil Engineering in HCMUTRANS
- Received his M.Eng in HCM University of Technology
- Work in division of designing bridge of Transport Engineering Consulting JSC. No. 533, HCM city Branch - Teaching "Design of Steel Bridges", "The application of Midas Civil for the Structural analysis of Bridge"



### Using of midas Civil for Design of Cantilever Balanced Prestressed Concrete Bridge (SaiGon 2 Bridge Project)

by Msc. Le Hoai Le

This presentation will cover SaiGon 2 Bridge Project officially started from 2012. The main objectives of this projects is : (1) Raising roadway capacity, urgent and long-term solutions in traffic organization at the north-eastern gate way of the city. (2) Effective load reduction for the existing SaigonBridge, traffic decongestion, improving traffic capacity. (3) Ensuring synchronous connection to the entire Hanoi Highway route following expansion. Using of midas Civil for this project will be presented.

BRC (B.R DESIGN CONSULTANT) provides consultant services of transport infrastructure consist of topographical survey, soil investigation and laboratory test, project management, master plan, feasibility study, basic, technical and detailed design, construction supervision for all modes of transportation, including arterial and local roadways, intersection and interchange, and bridge.

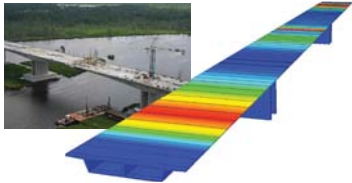
## Challenges with Design & Analysis of High End Bridges



# Project Applications Selected Worldwide

## • Segmental Concrete Bridges

US17 Wilmington Bypass (North Carolina, USA)



I-95/I-295 Lee Roy Selmon Flyovers (Florida, USA)



Galena Creek Bridge (Nevada, USA)



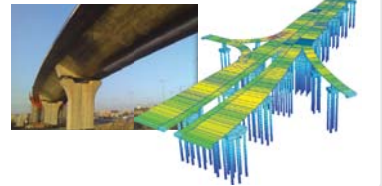
Jalan Travers Bansar (Kuala Lumpur, Malaysia)



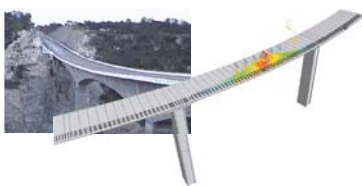
The bridge over the Adige river (Verona, Italy)



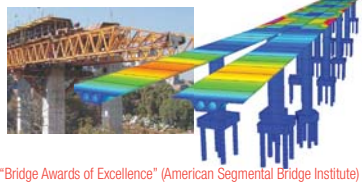
Basarab viaduct (Bucharest, Romania)



La Jabalina Bridge (Durango, Mexico)



Tarango Bridge (Mexico City, Mexico)



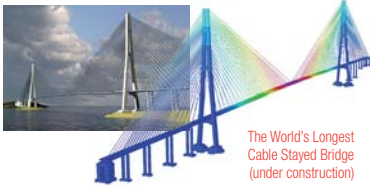
"Bridge Awards of Excellence" (American Segmental Bridge Institute)

Intersección Elevada Av. Suba x Av. Boyacá (Cali, Colombia)



## • Cable Stayed Bridges

Rusky Island Bridge (Vladivostok, Russia)



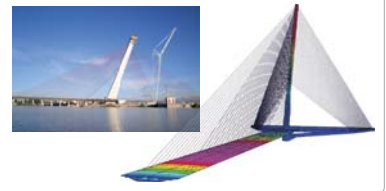
The World's Longest Cable Stayed Bridge (under construction)

Stonecutters Bridge (Hong Kong, China)



2<sup>nd</sup> Longest Cable Stayed Bridge

Talavera Bridge (Castile-La Mancha, Spain)



Ironton-Russell Bridge (Between Ironton and Russell, USA)



New Wear Bridge (Sunderland, UK)



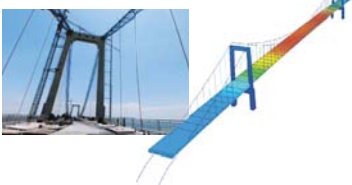
An Award Winning Bridge in UK

Korabelny Farvater Bridge (Saint-Petersburg, Russia)



## • Suspension & Extradosed Bridges

Thuan Phuoc Bridge (Da Nang, Vietnam)



Young Jong Bridge (Incheon, South Korea)



Kum Ga Bridge (Chungju, South Korea)

