

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

Hanoi

Daewoo Hanoi Hotel,
Oct 28th, 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. Hoang Ha (Ministry of Transport)
09:20-09:30	Donation ceremony	MIDAS IT / UTC

Session II. Key Note Speech

09:30-10:10	The latest technology trends in Bridge engineering in Vietnam	Prof. Tran Duc Nhiem (UTC)
10:10-10:40	Application of midas Civil & midas FEA on Analyzing 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	Application of midas FEA in Modeling and Analyzing the behavior of Local Stress Regions in Concrete Structure	MSc. Le Duc Hien (Lecturer of UTC)
12:20-13:00	midas Civil Application into calculating and checking Steel Bridge Structures	Dr. Nguyen Huu Hung (Lecturer of UTC)
13:00-13:20	Closing ceremony (Prize lottery)	MIDAS IT / UTC

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
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Presenters

Speakers' Presentation & Profile

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The latest technology trends in Bridge engineering in Vietnam by Prof. Tran Duc Nhiem

Current issues on bridge engineering in Vietnam are summarized. Latest trends in designing and construction of bridge in Vietnam are introduced and analyzed. The design methods and control of structures during construction and operation of bridges are also introduced. The software supports design calculations are included with an important role for the achievements in the field of bridge engineering in recent years in Vietnam.

Prof. Tran Duc Nhiem (from UTC) received his Ph.D in 1988 in MIIT, Moscow. He has more than 40 years of experience in consultancy and research in the field of bridge engineering. He is the former dean of the bridge and tunnel engineering section, Department of civil engineering, university of Transport and Communications, Vietnam.



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 TECCO1-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

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Application of midas FEA in Modeling and Analyzing the behavior of Local Stress Regions in Concrete Structure

by MSc. Le Duc Hien

This presentation represents basic issues in terms of finite element modeling and analyzing process to describe the behavior of local stress region in concrete structure, in that model of materials for concrete, reinforcements, and changes of concrete components having cracks will be taken into account. For these processes, midas FEA is an efficient tool with results that can be regarded as essential ideas for not only other practical methods like "struts and ties" but also design solutions to avoid failures from local stress areas in construction as well as service stages.

Mr. Le Duc Hien (from UTC) received his MSc from the University of Transport and Communication in 2008. As a lecturer in the Informatics in Civil Engineering Division, his major subjects are related to finite element analysis and civil engineering software development. He is currently conducting several researches on local stress region in concrete structure for his doctoral program.



midas Civil Application into calculating and checking Steel Bridge Structures

by Dr. Nguyen Huu Hung

This presentation provides an overview of midas Civil software's application into designing steel bridge structures. midas Civil software's applications have been rapidly expanding over the last few years. The basic idea behind these applications are developments in Finite Element Analysis for Bridges, especially focus on steel bridge structures. The motivation for the development of this applications is presented. Past, current and future-planned applications to design of steel bridge structures are summarized. The paper concludes with a discussion of critical issues for future research in the area of Finite Element Analysis for Steel Bridges.

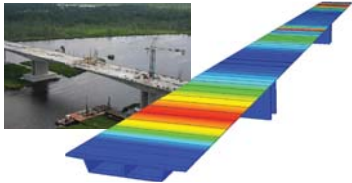
He received his Bachelor of Science (B.S.) degree in Engineering in Road-Bridge Construction in 2003 and Master of Science (M.S.) degree in Civil Engineering in 2008, both from University of Transport and Communications (UTC) of Vietnam. He received other Master of Science (M.S.) degree in Computational of Mechanics of Continuum in 2007, from The Program of Belgian-Vietnamese Inter-University Cooperation in Applied Science Finance by CGRI. In July 2013, he received his Doctor of Philosophy (Ph.D.) degree in Highway and Railway Engineering at Jilin University, China. During his graduate study, his main research activities involved Structural Dynamics, Structural Analysis, Bridge Health Monitoring, and Finite Element Analysis.

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)



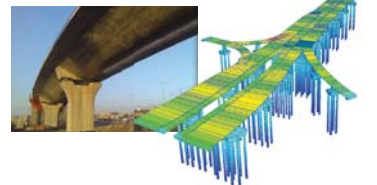
Jalan Travers Bansar (Kuala Lumpur, Malaysia)



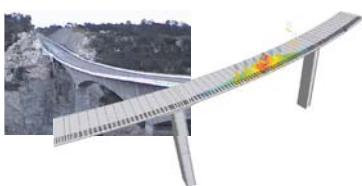
The bridge over the Adige river (Verona, Italy)



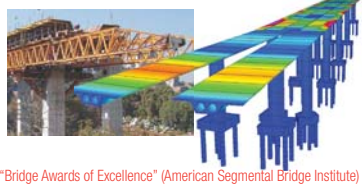
Basarab viaduct (Bucharest, Romania)



La Jabalina Bridge (Durango, Mexico)

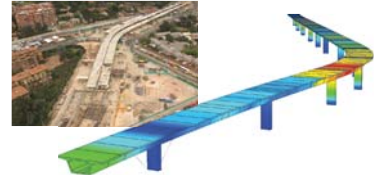


Tarango Bridge (Mexico City, Mexico)



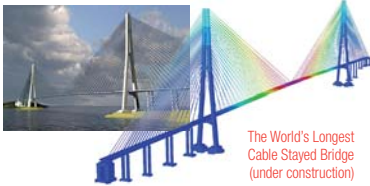
"Bridge Awards of Excellence" (American Segmental Bridge Institute)

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)

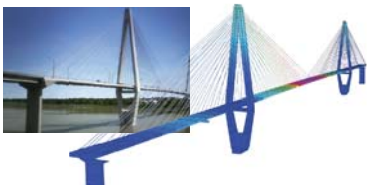


2nd Longest Cable Stayed Bridge

Talavera Bridge (Castile-La Mancha, Spain)



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



New Wear Bridge (Sunderland, UK)



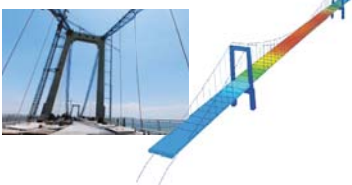
An Award Winning Bridge in UK

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)

