

- (4) **FE Program ABAQUS for seismic assessments**
Mahesh Kailasam, Director of Energy Strategy, Dassault Systems Simulia Corp., USA
- (5) **FE Program SASSI for Dynamic response analysis of nuclear containment structures.**
Mansour Tabatabaie, Chief Engineer, SC Solution, Inc., USA
- *(6) **FE Program LS-DYNA**
Ushnish Basu, Livermore Software Technology Corp., USA.
- *(7) **FE Program ADINA**
_____, ADINA R & D, Inc., USA.

**Dec. 16 (Thurs), 2010, Afternoon (Session IV):
Nuclear Waste Storage Facilities**

- (1) **Spent nuclear fuel disposal in Taiwan**
Y. C. Peng, Section Chief, Taiwan Power Company, Taiwan.
- (2) **Properties of concrete required in nuclear power plants**
Pietro Gambarova, Professor, Politecnico di Milano, Italy.
- (3) **Concrete under high temperature**
Kaspar Willam, Professor, University of Houston & Yunping Xi, Professor, University of Colorado, USA
- (4) **Concrete subjected to radiation and high temperature**
Yoshikazu Ichikawa & Osamu Kontani, Kajima Company, Japan
- (5) **Activities in Support of Continuing the Service of Nuclear Power Plant Safety-Related Concrete Structures**
Dan J. Naus, Oak Ridge National Laboratory, USA.
- (6) **The independent spent fuel storage installation**
Yu-Hao Huang, Associate Manager, Institute of Nuclear Energy Research, Taiwan.
- (7) **The Yucca Mountain Repository Project**
Stanley A. Orrell, Director of Nuclear Energy, Sandia National Laboratory, USA

**Dec. 17 (Fri.), 2010, Morning (Session V):
The Future Nuclear Power Plants**

- (1) **The current status of nuclear power plants and the role of nuclear power in the future**
Philip G. Tipping, Nuclear Energy and Materials Consultants, Switzerland.
- (2) **Concrete properties and safety of nuclear infrastructures: themes for future research"**
Jacky Mazars, Professor, Grenoble Institute of Technology, France"
- *(3) **Nuclear power development in Europe and Structural Assessment**
Pierre Pegon, European Laboratory for Structural Assessment, Joint Research Center of European Commission.
- (4) **Seismic action abatement method for nuclear power plants and seismic-isolation systems for different structure elements**
Evgeny Kurbatskiy, Professor, Moscow State University of Railway Engineering, Russia.
- (5) **Panel Discussion: All speakers will be on the panel to answer questions from the audience**

※ Oral lectures with an asterisk sign * indicate final confirmation is in progress.

**Dec. 17 (Fri.), 2010, Afternoon:
Concurrent Guided Tours**

- Tour 1: National Taiwan University (NTU) Campus and National Center for Research on Earthquake Engineering (NCREE)**
(2:00 pm to 3:30 pm)
- Tour 2: Taipei 101** (2:00 pm to 4:30 pm)
- Tour 3: Taiwan ABWR Nuclear Power Plant** (1:00 pm to 6:00 pm)

Conference Venue

The workshop will be held at the Howard International House, Taipei.

Conference Website

The conference website is located at
<http://iwisne.ncree.org.tw/>
This website will be continuously updated with the latest conference information.

Publication of Proceedings

Papers presented in the workshop will be collected in the Proceedings CD-ROM, and will be reviewed and edited afterwards for an official book publication by John Wiley and Sons, Ltd.

Registration Fee

	<i>Before 2010/11/15</i>	<i>After 2010/11/16</i>
Full Registration Fee	NT\$12,000	NT\$15,000
Registration Fee for full-time students	NT\$9,500	NT\$12,000
Accompanying Person Fee	NT\$4,500	NT\$4,500

* US\$1 = NT\$30.9600 as of Oct. 12, 2010

Registration fee includes workshop materials, coffee break, meal, welcome reception, banquet, and guided tour.

Accompanying person fee includes coffee break, meal, welcome reception, banquet, and guided tour.

Language

English will be used as official language in the workshop.

Inquiry

All inquiries relating to the workshop should be addressed to:

IWISNE Workshop Secretariat
National Center for Research on Earthquake Engineering
200 Sec. 3, Xinhai Rd., Taipei 10668, Taiwan
Tel: +886-2-6630-0888
Fax: +886-2-6630-0858
Jui-Liang LIN
Email: jlilin@ncree.org.tw
Chiun-lin WU
Email: clwu@ncree.org.tw



2010臺北國際花卉博覽會
TAIPEI INT'L FLORA EXPO

Special Attraction

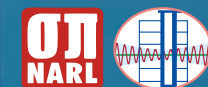
**Taipei International Flora Exposition,
Nov. 6, 2010 to April 25, 2011.**

Official website at <http://www.2010taipeiexpo.tw/>



International Workshop on Infrastructure Systems for Nuclear Energy

2010 December 15 (Wed) to 17 (Fri)
Howard International House, Taipei, Taiwan



Organized by
National Center for Research on Earthquake Engineering

Purpose of Workshop

Creating sufficient energy resources to replace oil and coal is the most critical and urgent need of the whole world. Of the new energy sources, wind and solar energy are desirable, but the usable quantities are limited. The only new energy resource that has unlimited potential and can replace oil and coal is nuclear energy.

The development and usage of nuclear energy has suffered a severe setback during the past thirty years primarily due to the “safety” problem, exemplified by the 1979 “Three Mile Island Accident” in the United States and the 1986 “Chernobyl Disaster” in Russia. The “safety” problem, particularly in the earthquake regions, includes three primary aspects:

- How to build a containment structure to protect nuclear reactor vessels from leaking radioactive pollution?
- How to store the nuclear wastes, both in the nuclear power plants (short term storage) and in the designated underground sites for radioactive nuclear wastes (long term storage)?
- How to reduce the amount of nuclear wastes and the radioactive components?

The third question is obviously for the nuclear physicists and nuclear engineers to solve and great progress has been made in this aspect. In the Generation IV nuclear power plants currently being designed, both the amount of nuclear wastes and their half-lives are drastically reduced. We have now reached the point where a “nuclear renaissance” is in the making.

The first two questions are related to infrastructure systems and are in the domain of civil engineers, especially those in the field of earthquake engineering. They also include those in the field of structures, materials, geotechnical and computational mechanics. It is both a solemn responsibility and a global opportunity for the Civil Engineers to meet this challenge and to answer the first two questions. The future development of nuclear energy depends strongly on the civil engineering profession in the design of safe infrastructure systems.

After thirty years of “anti-nuclear” emotion sweeping over the world, we have lost more than a generation of civil engineers who had the knowledge and experience to design the nuclear power plants. On the other hand, great progress has been made in the seismic design of concrete structures. The purpose of the workshop is, therefore, three-fold: First, to provide an opportunity for the world-leading experts to meet and to search for the best way to design the infrastructure systems for nuclear energy. Second, to provide an opportunity for younger civil engineers to learn their trade from the top experts, and third, a book publication* containing this workshop papers will become the most up-to-date and comprehensive reference to guide the future research and design of infrastructure systems for nuclear energy.

*John Wiley & Sons, Ltd. is interested in publishing this book.

Sponsors

Department of Civil Engineering, National Taiwan University, Taiwan
Department of Civil and Environmental Engineering, University of Houston, USA
Department of Architecture, the University of Tokyo, Japan
Division of Structural Engineering, Politecnico di Milano, Italy
National Science Council, Taiwan
National Applied Research Laboratories, Taiwan
Atomic Energy Council (AEC), Taiwan
Institute of Nuclear Energy Research, AEC, Taiwan
Fuel Cycle and Materials Administration, AEC, Taiwan
Taiwan Power Company, Taiwan
Sinotech Engineering Consultants Ltd, Taiwan

Co-sponsors

American Concrete Institute, USA
Asian-Pacific Network of Centers for Earthquake Engineering Research
Chinese Society of Structural Engineers, Taiwan
Chinese Taiwan Society for Earthquake Engineering, Taiwan
Earthquake Engineering Research Institute, USA
European Laboratory for Structural Assessment, Joint Research Center of European Commission
Green Energy & Environment Research Laboratories, Industrial Technology Research Institute, Taiwan
Institute of Nuclear Engineering and Science, National Tsing Hua University, Taiwan
Japan Concrete Institute, Japan
Mid-American Earthquake Center, USA
Multidisciplinary Center for Earthquake Engineering Research, USA
Ruentex Group, Taiwan
SINTEC, Italy
Taiwan Concrete Institute, Taiwan

Advisory Committee

Thomas T. C. Hsu, University of Houston, USA (Chair)
Tetsuo Kubo, University of Tokyo, Japan
Pietro Gambarova, Politecnico di Milano, Italy.
Sung-Gul Hong, Seoul National University, Korea
Yi-Bin Chen, Atomic Energy Council, Taiwan
S. J. Huang, Taiwan Power Company, Taiwan

Local Organizing Committee

Kuo-Chun Chang (Chair)
Cheng-Hsing Chen
Ting Chow
Liang-Jeng Leu
Kuo-Liang Wen
Wen-Yu Chien
Juin-Fu Chai
Secretaries: Jui-Liang Lin, Chiun-lin Wu

Program

Dec. 15 (Wed.), 2010, Morning: Introduction to Nuclear Energy

- (1) **Welcome address and introduction to workshop**
Thomas T. C. Hsu, Professor, University of Houston, USA. (Visiting Chair Professor, National Taiwan University, Taiwan)
- (2) **Welcome to Taiwan**
Chuen-Horng Tsai, Minister, Atomic Energy Council, Taiwan
- (3) **Development of nuclear energy in Taiwan**
Hwai-Chiung Hsu, Vice-President, Taiwan Power Company, Taiwan
- (4) **Infrastructure systems for nuclear energy**
David Diamond, Division Head, Brookhaven National Laboratory, USA

Dec. 15 (Wed.), 2010, Morning (Session I): Analysis of Containment Structures

- (1) **Nonlinear modeling of 3D structural reinforced concrete and seismic performance assessment**
Koichi Maekawa, Professor, University of Tokyo, Japan
- (2) **Shear strength and shear ductility in reinforced concrete walls**
Thomas T. C. Hsu, Professor, University of Houston, USA.
- *(3) **Beam shear and out-of-plane shear in walls**
W. Gene Corley, Senior Vice President, CTL Group, USA.
- (4) **Interaction of in-plane shear and out-of-plane shear**
Ashraf S. Ayoub, Associate Professor, University of Houston, USA

Dec. 15 (Wed.), 2010, Afternoon (Session II): New Design Concept for Containment Structures

- (1) **Ground motion, seismic response and design of concrete structures**
Tetsuo Kubo, Professor, University of Tokyo, Japan
- (2) **Performance-based engineering of seismic isolation for nuclear power plants**
Bozidar Stojadinovic, Professor, University of California at Berkeley, USA
- (3) **Soil-structure interaction of containment structures**
Takao Nishikawa, Professor Emeritus, Tokyo Metropolitan University; Chair, Government Committee on the Safety of RC-PC Nuclear Facilities.
- (4) **Blast, shock, impact, and penetration hazards to nuclear structures**
Theodor Krauthammer, Professor, University of Florida, USA
- (5) **Prestressed concrete containment structural design in China**
Zufeng Xia, Professor, Shanghai Nuclear Engineering Research and Design Institute, China.
- (6) **Steel Plate Concrete Walls for containment structures in Korea**
Sung-Gul Hong, Professor, Seoul National University, Korea.
- (7) **Development of Specification for Safety-Related Steel-Plate Concrete Structures for Nuclear Facilities**
Wonki Kim, Professor, Hoseo University, Korea.
- (8) **US-NRC requirements for containment structure design**
John S. Ma, Senior Structural Engineer, Nuclear Regulatory Commission, USA.

Dec. 16 (Thurs), 2010, Morning (Session III): Applicable Computer Software for Containment Structures

- (1) **FE Program CSC for analyzing wall-type concrete structures**
Y. L. Mo, Professor, University of Houston, USA
- (2) **FE program ANATECH-ANACAPU**
Y. R. Joe Rashid, Chairman, ANATECH Research Corp., USA
- (3) **FE Program DIANA**
Jan G. Rots, Professor, Delft University of Technology, Netherland