Green Building - Bâtir Vert
GBBV-Shanghai 2013

French-Chinese Summer Seminar
organized by the National Grande École of Civil Engineering works for the French State (ENTPE), with the support of the Rhône-Alpes region, in partnership with the Chinese universities of Tongji and Jiaotong in Shanghai, and the French University of Lyon.

Organizers: François VICTOR & Maryse CHAZELLE (ENTPE)
Report: Alain HAYS – International Consultant / Graduated in Architecture
DAY 1 – FRENCH – CHINESE SUMMER SEMINAR: “GREEN BUILDING – BÂTIR VERT”

GBBV-SHANGHAI 2013

The French–Chinese Summer Seminar GBBV-Shanghai 2013 started with a welcome address of M. Jean-Maurice Hebrard, general manager of ERAI-China with its office permanently located in the Rhône-Alpes Pavilion where the GBBV-Shanghai 2013 took place on August 26 to 30.

The Rhône-Alpes pavilion is located in the Urban Best Practices Area of the Shanghai World Expo.

ENTPE
National Grande Ecole of Civil Engineering Works for the French State
M. François VICTOR,
Director of Continuing Education

M. François Victor introduced the seminar on behalf the National Grande Ecole of Civil Engineering Works for the French State (ENTPE), main organizer of the GBBV-Shanghai 2013.

OBJECTIVES AND PRINCIPLES

The program of the Seminar GBBV-Shanghai 2013, as a follow-up of the “Sustainable Building Week” (Shanghai 2010 World Expo) and of the 2011 Summer school, aims to introduce and share skills and knowledge about Chinese and French approaches related to Sustainable and Green Building and concerning the steps over the life cycle of a building: design, construction, use, end of its life cycle, and integration into the surrounding cityscape.

The "Green Building" approach will be cross-cutting rather than sectorial or only technical. The seminar topics aim to encourage an exchange process among speakers and participants, to study interface issues between trades and technology, engineering sciences and humanities.

A short-term goal should be to identify potential research themes, training topics and forms of cooperation between all the “Green Building” stakeholders for the mutual benefit of both countries.

During five days, within a convivial and friendly framework, took place theoretical contributions, presentation of practical experiences, exchanges/discussions, workshop and study visits.

The Seminar was intended for:

- Chinese or French public authorities
- Public or private companies executives or directors (Research department engineers, architects, builders, manufacturers)
- Executives and decision-makers in charge of construction projects and/or urban planning.
- Chinese students with Master 2 or PhD
- French Students of ENTPE who are preparing the specialized “Green Building” Master
Joining Mr. Victor for the GBBV-Shanghai 2013 introduction are Mr. Nicolas Farges, Director of External and International Relations of ENTPE and Mr. Nicolas Phillibert, Shanghai Representative of Lyon University.

UNIVERSITY OF LYON

M. Nicolas PHILLIBERT,
Shanghai Representative of Lyon University

Mr. Nicolas Phillibert, on behalf the French University of Lyon introduced the GBBV-Shanghai 2013.

SHANGHAI MUNICIPALITY

Prof. ZHU Jianhao,
Shanghai Municipal Urban-Rural Development & Transportation Commission

Prof. Zhu Jianhao, on behalf the prestigious Shanghai Municipality introduced the GBBV-Shanghai 2013.
DAY 1 - SUSTAINABLE GREEN BUILDING CONCEPTS:

SHARING OF CHINESE AND FRENCH EXPERIENCES AND GOOD PRACTICES

KEY NOTE PRESENTATION

TONGJI UNIVERSITY

Prof. Dr. WU Zhiqiang, Ing for Urban Planning - Vice-President of Tongji University
Chief Planner, Shanghai World Expo 2010

GRAND LYON - Urban Community of Lyon

M. Jean-Loup MOLIN
Deputy Director – Direction for Prospective & Public Dialogue.
Ms. Corinne HOOGE
Project Manager – Direction for Prospective & Public Dialogue.

GBBV-SHANGHAI 2013 SPONSORING

BORAL

M. LIU Fred – Technical Manager
DAY 1 - GREEN BUILDING AND THERMAL OPTIMIZATION:

HEATING, COOLING AND ENERGY CONSERVATION

NANJING UNIVERSITY
Prof. Dr. QIN Mengdao
Director of the Center for Sustainable Building Research.
School of Architecture and Urban Planning

TONGJI UNIVERSITY
Dr. SHEN Shuqin – Assistant Dean
Research Institute of Green Building and New Energy

GBBV-SHANGHAI 2013 SPONSORING

SOMFY
M. LIU Jiwu – Marketing Director

SHNEIDER ELECTRIC
M. TIAN He – Energy Engineer
SRIBS BUILT THE “ECOHOMESHANGHAI’S MUNICIPALITY PAVILION” IN COOPERATION WITH SEVERAL FOREIGN BUILDING RESEARCH CENTERS.

Important foreign building research centers as the French CSTB (Scientific and Technical Construction Center) and the American research center DOW cooperated with SRIBS for building the ECOHOME Pavilion of Shanghai Municipality.

“...among all these constructions, the Ecohome stands out. It can be found in the Urban Best Practices Area, to represent Shanghai’s municipality. Built by the SRIBS (Shanghai Research Institute on Building Science), it is a prototype of the perfect sustainable building, aiming at being reproduced in the whole China after the expo. Being the only Chinese building of this type, its influence goes past the city of Shanghai. According to the target of the Urban Best...”

“The Ecohome has been built to stay, and to be a standard for future housing development in China and maybe beyond. The building aims at presenting technologies of the future with the main target of reducing energy, and resource consumption, but also to enhance modern life. The SRIBS has called for the most innovative Chinese and foreign firms to make this house a reference. The CSTB (Scientific and Technical Construction Center) (French institution), which has worked with SRIBS for many years now, shared its scientific and technical expertise with SRIBS to assess the building. The common work focused on how to evaluate the energy performance, the quality of the inside ventilation, and the acoustic environment. It also dealt with the adaptation of the lighting to the needs, and with the use of virtual reality in the assessment and control of the building.”

Source: http://www.cstb.fr/langues/chinese.html
Contact: Mr Bruno Mesureur Director of Marketing and International Development – CSTB
DAY 2 - GREEN BUILDING AND NATURE:
LANDSCAPE AND GREEN BUILDING DESIGN. QUALITY AND USER-FRIENDLINES OF PUBLIC AND PRIVATE, OUTDOOR AND INDOOR SPACES. BIOCLIMATISM

OPENING CONFERENCE

CHINESE ACADEMY OF SCIENCES
XISHUANGBANNA TROPICAL BOTANICAL GARDEN
XTBG / CAS
M. Alain HAYS, Chief Designer
On behalf of Prof. Dr. CHEN Jin, Director of XTBG

INTELLIGENCE DES MONDES URBAINS – IMU – LYON UNIVERSITY
Ms. Christelle MOREL - IMU-EVS CNRS
Prof. Jean-Yves TOUSSAINT - IMU–EVS CNRS Coordinator

TONGJI UNIVERSITY
Prof. LIU Binyi
Director of Landscapes College of Architecture and Urban Planning

TONGJI UNIVERSITY
M. RUAN Jianjing
Consultant in Green Building
Shanghai Green Building Incubator
**DAY 2 - STUDY VISIT - SRIBS**

**SHANGHAI ECO-BUILDING BASE FOR EXHIBITION AND TRAINING (SRIBS)**

**SRIBS**

*Shanghai Research Institute of Building Science*

Department of Building Innovation Technology

**M. AN Yu**

Senior Engineer

Deputy Technical Director of the Green Building Dpt. Of SRIBS

Consulting Engineer (Investment) – Deputy Manager (GBT Division)

*Photo Alain Hays (2013)*
DESCRIPTION:

“Shanghai Eco-office is the first green demonstration building in China, it is also the first China Green Building certified project with three-star grading for both design and operation.

- It is not only a green project, but also a start for China green design.
- The green technology used in this building is leading at that time, for example the hot and wet separation AC system, Solar Energy Multiple-Usage System.”

“With nine green roof, one atrium garden and one west side vertical green, Shanghai Eco-office Demonstration Building looks full of the green.

The total green area of this building is around 400 sqm, which is 20% of the total floor area. Green space plays an important role on adjusting the micro-environment. Plants are always the most economy and efficient green design method.

In order to minimize the energy loss inside the building, Shanghai Eco-office Demonstration Building made great effect on the building envelope design, for example, they use insulation system (wall and roof), double glazing Low-E window, shading system, etc.

After calculation and analysis, this envelope design save around 47.8% energy.

Indoor environment quality is essential for the health. Designed with the natural ventilation and day lighting, this building not only creating a conformable environment, but also reducing the energy consumption. Using non-toxic product is an important way to control the indoor pollution resource. A reliable indoor air quality test can precisely tell the healthy situation.”

Source: SRIBS
DAY 2 - STUDY VISIT - SPRING DEW MANSION AREA (SDMA) 万科朗润园
FIRST ECO-RESIDENTIAL AREA IN SHANGHAI

Construction Cost (without land cost):
5000 – 6000 RMB/m² – (485 - 581 €)
(Middle cost in Shanghai : 4 000 RM/m²)
(Change rate 01/01/2007 = 1RMB = 0,097 €)
Initial Price (2007): 28 000 RMB/m² – 2 716 €/m²
Current Sales Prices (second hand market):
35 000 RMB/m² – 4 306 €/m²
(Change rate 27/09/2013 = 1RMB = 0,121 €)
Current middle prices in Shanghai (2013):
Ex: 55 m² = 300 000 € / 5 500 to 7 000 €/m²  (Source: AH Notes)
DAY 3 - GREEN BUILDING: RENOVATION OF EXISTING BUILDINGS

OLD BUILDINGS AND CULTURAL BUILDING HERITAGE

TERAO
Green Building Engineering
Ms. PAN Shasha,
Green Building Engineer

SHANGHAI PLANNING AND LAND RESOURCES ADMINISTRATION BUREAU
Historic Conservation Administrative Dept./Urban Sculpture Dept.
Dr. WANG Lin
Director

ENTPE
National Grande Ecole of Civil Engineering
Works for the French State
Dr. Richard CANTIN
Researcher
“Rehabilitation and conservation of architectural heritage of the 20th century, French Examples of modern architecture (residential, industrial, tertiary) and learned lessons.”

ENTPE
National Grande Ecole of Civil Engineering
Works for the French State
Dr. Mohamed EL MANKIBI
Researcher
“Active facades: Multicriteria optimization of design and usage”
DAY 3 – STUDY VISIT

HISTORIC BUILDINGS ON THE BUND

SHANGHAI PLANNING AND LAND RESOURCES ADMINISTRATION BUREAU
Historic Conservation Administrative Dept./Urban Sculpture Dept.

Dr. WANG Lin
Director

DAY 3 – STUDY VISIT – THE SHANGHAI TOWER

ECO-GIGANTISM: TALLEST “GREEN SKYSCRAPER” IN CHINA

SHANGHAI TOWER CONSTRUCTION & DEVELOPMENT Co.,Ltd.

Mr. WANG Zhenhua
Senior Manager, Senior Engineer.

In the foreground Ms. Grace ZHU, PR Director, Shanghai Tower Construction & Development Co.,Ltd
Unfortunately, the Shanghai Tower is very visible from the famous Yu Garden (Ming Dynasty – 1559), breaking the Sky’s harmony above this marvelous peaceful corner of the World. (AH Photo, 2013)

SHANGHAI TOWER: 632 METER HIGH!
ECO-GIGANTISM - SHANGHAI TOWER - THE “GREEN” ARGUMENTS

DAY 4 - GREEN BUILDING: NORMALIZATION AND MASSIVE APPLICATION

AWARENESS RAISING, DISSEMINATION AND TRAINING ISSUES FOR MASSIVE IMPLEMENTATION OF OPERATIONAL PROCESSES FOR SUSTAINABLE CONSTRUCTION

GBBV MASTER

ENTPE
National Grande Ecole of Civil Engineering
Works for the French State
Dr. Richard CANTIN
Researcher
“Introduction to GBBV Master and Double Curriculum Engineer–Architect”

ENTPE
National Grande Ecole of Civil Engineering
Works for the French State
Ms. Isabelle RIOS
GBBV Master Student

ENTPE
National Grande Ecole of Civil Engineering
Works for the French State
Ms. Coline LETY
GBBV Master Student

ENTPE
National Grande Ecole of Civil Engineering
Works for the French State
Mr. Frédéric PRATS
GBBV Master Student

ACCESSIBILITE DES BATIMENTS

Exemple d’application d’un cours du mastère GBBV
ENTPE
National Grande Ecole of Civil Engineering Works for the French State
Ms. Claire FLEURY
GBBV Master Student

ENTPE
National Grande Ecole of Civil Engineering Works for the French State
Ms. Alexia LOPEZ
GBBV Master Student

ENSAL
Ecole Nationale Supérieure d’Architecture de Lyon
Solar Decathlon – Team Rhône-Alpes
Mr. Olivier BALAY
Architect - Professor

AUF
Agence Française de la Francophonie
Bureau Asie-Pacifique
Mr. Régis MARTIN
Head of the Ho Chi Minh-City branch
DAY 4 - GREEN BUILDING: RESEARCH AND INNOVATION
EXPERIMENTATION, APPLICATIONS AND PERSPECTIVE – WORKSHOPS

WORKSHOP: TONGJI UNIVERSITY : IMU REPRESENTATIVE WORKS WITH PROF. DR. WU ZHIQIANG

TONGJI UNIVERSITY
Prof. Dr. WU Zhiqiang, Ing for Urban Planning - Vice-President of Tongji University
Chief Planner, Shanghai World Expo 2010

INTELLIGENCE DES MONDES URBAINS – IMU - LYON UNIVERSITY
Ms. Christelle MOREL - IMU-EVS CNRS
Prof. Jean-Yves TOUSSAINT - IMU-EVS CNRS Coordinator

WORKSHOP: SHANGHAI JIAOTONG UNIVERSITY
GREEN BUILDING EQUIPEMENTS AND VISIT OF THE SOLAR DECATHLON PROJECT

SHANGHAI JIAOTONG UNIVERSITY
Prof. Dr. LI Yong
Institute of Refrigeration and Cryogenics
Research Center of Solar Power & Refrigeration

绿色建筑能源技术
Green Building Energy Technologies
Shanghai Jiao Tong University
Yong Li
DAY 4 - WORKSHOP SHANGHAI JIAOTONG UNIVERSITY
GREEN BUILDING EQUIPEMENTS AND VISIT OF THE SOLAR DECATHLON PROJECT

SHANGHAI JIAOTONG UNIVERSITY
Prof. Dr. Li Yong.

EXPERIMENTAL SOLAR PANELS (Photo AH 2011)

Prof Dr. Li Yong - GBBV-Shanghai 2011 (Photo AH 2011)

EXPERIMENTAL GREEN BUILDING (Italian Cooperation) (Photo AH 2013)

SOLAR DECATHLON Experimental House Project Designed by the Jiatong’s Students (Photo AH 2013)
DAY 5 - GREEN BUILDING

INTELLIGENCE DES MONDES URBAINS – IMU - LYON UNIVERSITY
Ms. Christelle MOREL - IMU-EVS CNRS
Prof. Jean-Yves TOUSSAINT - IMU–EVS CNRS Coordinator

THE UNIVERSITY OF HONG KONG
Department of Architecture
Ms Crystal KWAN
Research Associate

"Sustainable Architecture in Chinese Villages"

ENTPE
National Grande Ecole of Civil Engineering Works for the French State
Dr. Richard CANTIN
Researcher

"Performance and energy renovation of dwellings - French case studies and lessons learned"

CABR
China Academy of Building Research
Mr. ZHANG Yin

"The Development of Green Building in China and the Implementation Situation of Important Property Developers"
DAY 5 - GREEN BUILDING / MATERIALS AND TECHNIQUES

ENTPE
National Grande Ecole of Civil Engineering Works for the French State
Dr. Mohamed EL MANKIBI
Researcher

“Actives (Latent) Storage for hybrid and passive techniques enhancement”

TONGJI UNIVERSITY
Prof. ZHANG Yongmin
Director of the Sino-European Energy Efficient Building Training & Research Center

“Normalization of Green Building in China, and Case Study”