

CHAMPS
Shenzhen·2014
Participant Guide Book

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The 11th International Forum and Workshop on
Combined Heat, Air, Moisture and Pollutant
Simulations

Shenzhen, China, July 13-14, 2014

Participant Guide Book

**The 11th International
Forum and Workshop
on Combined Heat, Air,
Moisture and Pollutant
Simulations**



- ① Shenzhen Overview
- ④ IBR Introduction
- ⑥ CHAMPS 2014 Overview
- ⑧ Conference Program
- ⑪ Service Guide

Note: This brochure was edited on July 1st.
Please verify updated forum information on site, July 13th.

01

Shenzhen Overview

Shenzhen is an important gateway of China for international communication, a marvelous synopsis of China's reform & open policy and modernization in construction.

Geographic location

Shenzhen is a coastal city in South China, adjoining Hong Kong. Its longitude lies between 113.46 and 114.37 degrees east, and its latitude between 22.27 and 22.52 degrees north, south of the Tropic of Cancer; it is in southern Guangdong Province. Separated from Hong Kong by the Shenzhen River in the south, it is bordered by Dongguan and Huizhou in the north, Daya Bay and Dapeng Bay in the east and Lingdingyang and the Pearl River Estuary in the west.

Natural resources

The total area of Shenzhen is 1,996.78 square kilometers. Shenzhen has 230 kilometers of coastline which is rich in marine life. With several ports frequented by international fleets, we provide year round shipping access. Shenzhen is surrounded by several scenic mountains ranges; the highest is Wutong Mountain, with a peak at 943.7 meters above sea level. The city has rich natural attractions that are ideal for tourism. In the east are the popular beach resorts of Dameisha, Xiaomeisha and wilderness forest in Dapeng peninsula. In the west are scenic parks such as the Mangrove Nature Reserve, Inner Lingding Island and Waterlands Resort. ?



History

The name of Shenzhen firstly appeared in historical records in 1410 (Ming Dynasty), and the Shenzhen village was built in early Qing Dynasty. Local people called the drainage ditch in paddy fields "zhen" or "chong". Shenzhen literally means "deep ditch". The area was once crisscrossed with fields and wetlands, with one particularly deep ditch adjacent to the village. Shenzhen is also known as "City of Roc". The Chinese Central Government approved the Guangdong Provincial Government to establish the City of Shenzhen in 1979. In August 1980, the Standing Committee of China National People's Congress approved the foundation of Shenzhen Special Economic Zone. Shenzhen Special Economic Zone has been established for only 32 years, but it has over 6,700 years history of human activity (Native had lived in Shenzhen since the middle New Stone Age); 1,700 years of history as a province or county in ancient times; 600 years of history as a city; and over 300 years of Hakka immigration history. ?

Administrative divisions

As a sub-provincial listed city, Shenzhen has jurisdiction over six administrative districts and four new zones: Futian, Luohu, Nanshan, Yantian, Bao'an, and Longgang Districts, Guangming, Pingshan, Longhua, and Dapeng New Zones. On July 1st 2010, the Special Economic Zone (SEZ) was expanded to include the entire city. Of the 10.6 million residences in the city, 3.1 million have local registration.?

Migrant Culture

As a city of migrants and a window for China's reform and open to the world, Shenzhen is open-minded, tolerant and innovative. It is an ideal place for domestic and international talents to kick start their businesses. It has been voted as China's Most Dynamic City in recent years. According to the Chinese Academy of Social Sciences City Competitiveness Blue Book: Chinese Cities Competitiveness Report, released in May 2014, Shenzhen was ranked as the second most economically competitive city in China.



02

Green City Development Technology Provider Shenzhen Institute of Building Research



Shenzhen Institute of Building Research (IBR), founded in 1992, is a comprehensive science & technology research institute providing services for the entire life cycle of buildings and urban development including research & consultation, urban/rural planning, architectural design, project quality inspection, materials and indoor environment testing, project management, construction science and technology culture dissemination etc. In 2008, IBR was accredited as National Hi-Tech Enterprise and the Most Influential Organization of Building Energy Efficiency in China, and as the 11th 5-Year Plan Period Pioneer Organization of Science & Technology in Construction Field.

Vision & Pursuit

As a pioneer and leader in building energy efficiency, green building, green city, eco-city and low-carbon city in China, IBR has initiated several cutting-edge research projects in the above-mentioned fields. The pursuit is to provide technologies and happiness for the mass instead of elites and serve the public instead of just a small privileged group. As one of the very few early birds, IBR rode the tide of "Shenzhen Model" and reaped the benefits in green building and green city development. As of 2013, IBR has managed building design projects of more than 30 million square meters and over 3000 square kilometers of urban/rural planning.

Our long-term goal is to advocate green lifestyle in China. Such comprehensive lifestyle concept encompasses life-span oriented approach in sharing and balance between manmade and natural environment, that means harmonized with nature. Lifestyle represents the "green-consciousness" of an individual, The convergence of such lifestyle could build up momentum and become a way of thinking, may even be a philosophy, influencing a country or a generation to come.

IBR Building

—Chinese style low cost green building demonstration project

IBR Building, our headquarters with over 500 staff, designed by ourselves, has become a world renowned prototype of low-cost green office building:

- First Grade Award (with highest score) of 2010 National Green Building Renovation Award in China
- First one of National Demonstration Project of Renewable Energy Application
- First one of National Top-100 Green Building Demonstration Projects
- National Educational Base for Science & Technology Dissemination
- 2010 Shenzhen Top-10 Excellent Low Carbon Project
- 2011 China Human Settlement Pattern Project Award
- The 3rd Biannual China Award of "Good Design is Good Business" and Best Green Design Award (by Business Weekly and McGraw-Hill Construction)
- 2010 Best Practices of Building Energy Efficiency in Public Buildings by China Building Energy Efficiency Annual Report
- 2010 Hong Kong Green Building Award, Merit Award
- FuturArc Green Leadership Award 2011
- The 3rd Biennial Top Architecture, Public Building Category, Green and Ecological Design Award
- Futian District Practice Base for College Students, Shenzhen Municipality
- There are more than 65.9% energy saved and 53% water saved while investment decrease about 1/3 compared with other similar buildings.
- More than 30,000 people have visited this building since its completion in April 2009, including Mr. Han Qide, Vice Chairman of National People's Congress, Ms. Wang Zhizhen, Vice Chairman of Chinese People's Political Consultative Conference, Dr. Qiu Baoxing, Vice Minister of Housing and Urban-Rural Development, Mr. Jon Huntsman, former Ambassador of United States to China, and many officials, officers from trade and commercial organizations, experts and colleagues in field of building and urban development, media, common citizens and students.



03

CHAMPS 2014 Overview



AIMS

CHAMPS 2014 will be a unique technical program immediately following the Indoor Air 2014 international conference. CHAMPS 2014 will focus on major challenges facing the combined heat, air, moisture and pollutant simulations for the design and operation of sustainable buildings, and highlight a direct link between academic research and practical applications.

Specific objectives of CHAMPS 2014 are:

- to exchange, review and discuss the state of the art in CHAMPS development and applications in urban and building systems;
- to identify knowledge gaps, research and development needs to bridge academic research results and practical applications;
- to develop a plan for further collaboration in CHAMPS and IEA EBC Annex Project; and
- to tour one of the most renowned green buildings in China that exemplify the fundamental green building principles: to be in harmony with the nature.

HOSTS

Shenzhen Institute of Building Research (IBR), China
Tsinghua University, China

ORGANIZERS AND CO-ORGANIZERS

Tsinghua University, China
Syracuse University, U.S.A.
Danish Technical University, Denmark
Florida Solar Energy Center, U.S.A.
Nanjing University, China
Technical University of Dresden, Germany
The University of Hong Kong, China
The University of Tokyo, Japan
University de la Roche, France

CHAIRS

Ms. Qing Ye, President, Shenzhen Institute of Building Research, China
Prof. Xudong Yang, Tsinghua University, China
Prof. Jensen Zhang, Syracuse University, U.S.A.

TOPICS

- Whole building IEQ and energy performance: Modeling and simulation of combined heat, air, moisture, and pollutant transport processes in and around buildings, monitoring and intelligent controls;
 - Sustainable and healthy buildings: The impact of indoor pollutants on the energy efficiency of buildings, mitigation effect of ventilation and its control, performance criteria, certification programs and their impacts on building design and operation, comprehensive case studies;
 - Climate, community and site planning: Climate change effects on IEQ, urban and community planning, micro-urban climate and site impacts;
 - Building envelope performance: hygrothermal performance of buildings in different climates, leakage and moisture control, envelope-integrated ventilation and energy storage systems, energy and durability;
 - Micro-environment around occupants: demand-based personal environmental control, occupant behavior and impacts on IEQ and energy efficiency;
 - Design studio: Methods and tools for coordinated and integrated urban and building systems design, building information modeling (BIM), CHAMPS simulation framework, software, and optimization techniques, common databases of materials, assemblies, building topologies, climates, and real-world versus design performances.
- g) Case studies: Applications of CHAMPS for building systems design and model-based predictive controls.

Special Activities

Special activity 1 (time: July 12th 19:30-20:30, location: The Pearl Crowne Plaza)

Banquet for Presenters and Chairs

Specific activity 2 (time: July 13th 17:35-18:30, location: Shenzhen International Low-carbon City)

Tour of the Shenzhen International Low-carbon Park

Specific activity 3 (time: July 13th 18:30-20:00, location: Coconut Grove Plaza)

Buffet (Trading Hall 1st fl., in case of rain)

Specific activity 4 (time: July 14th 14:00-16:00, location: IBR Building)

Tour of IBR Building

04 Conference Schedule



July 13, 2014 (Sunday)

Day/Time	Title	Presenter	Organization	Country
8:30-9:00	Registration			
8:30-10:15	Session 1: Welcome and opening session	Chair: Prof. Xudong Yang	Tsinghua University	China
9:00-9:10	Welcome address by Shenzhen government official	TBD	The government of Shenzhen	China
9:10-9:15	Address by ASHRAE President	William P Bahnfleth	ASHRAE	USA
9:15-9:20	Address by ISIAQ President	Pawel Wargocki	Technical University of Denmark	Denmark
9:20-9:25	Brief history of CHAMPS and its goals	Jensen Zhang	Syracuse University	USA
9:25-9:45	Introduction of Shenzhen IBR and relevant projects	Qing Ye	Shenzhen IBR	China
9:45-10:15	Evaluating models used in computational fluid dynamics for indoor environment applications	Qingyan Chen	Purdue University	USA
10:15-10:30	Group Photo			
10:30-10:40	Break			
10:40-11:40	Session 2: Respective research center activities related to CHAMPS development and application	Chair: Prof. Yuguo	LiHong Kong University	China

Day/Time	Title	Presenter	Organization	Country
10:40-11:10	Indoor environment and human productivity	Pawel Wargocki	Technical University of Denmark	Denmark
11:10-11:25	Modeling of gas transfer from the ground to indoor environments	Francis Allard	University of La Rochelle	France
11:25-11:40	Coupled simulation of CFD and network model for heat and contaminant transport in a building	Shinsuke Kato	The University of Tokyo	Japan
11:40-12:25	Session 3: Respective research center activities related to CHAMPS development and application	Chair: Prof. Francis Allard	University of La Rochelle	France
11:40-12:10	Virtual Design Studio: an approach and software platform for integrative building system design	Jensen Zhang	Syracuse University	USA
12:10-12:25	CHAMPS modeling and Applications for hot and humid Chinese climate	Menghao Qin	Nanjing University.	China
12:25-13:25	Lunch			
13:25-14:40	Session 4: Respective research center activities related to CHAMPS development and application	Chair: Prof. Shinsuke Kato	Tokyo University	Japan
13:25-13:40	Air handling, energy efficiency and performance of efficient buildings – experiences from the	Arctic Carsten Rode	Technical University of Denmark	Denmark
13:40-13:55	Measurement and simulation of long-term variations of formaldehyde in close-to-real buildings	Xudong Yang	Tsinghua University	China
13:55-14:10	Study of SVOCs in Indoor Environment to Support EPA Chemical Safety for Sustainability Program	Xiaoyu Liu	EPA	USA
14:10-14:25	Latest EnergyPlus development	Lixing Gu	Florida Solar Energy Center.	USA
14:25-14:40	Evaluation of hygrothermal risk of building constructions by considering the stochastic nature of input data	Jianhua Zhao	Technical University of Dresden	Germany
14:40-14:50	Break			
14:50-17:35	Session 5: IEA-EBC New Annex Project Preparation	Chair: Prof. Carsten Rode	Technical University of Denmark	Denmark
14:50-17:35	"Whole Building Energy Efficiency & Environmental Performances" preparation meeting			
17:35-18:30	Green building technical tour I: Tour of the Shenzhen International Low-carbon Park			
18:30-20:30	Dinner			

05 Service Guide



July 14, 2014 (Monday)

Day/Time	Title	Presenter	Organization	Country
9:00-9:50	Session 6: Overview of IBR research activities and experiences	Chair: Prof. Jensen Zhang	Syracuse University	USA
9:00-9:20	Report of IBR Green Built Environment Center Activities	Yao Gao	Shenzhen IBR	China
9:20-9:50	Green building design and eco-planning – practices and projects	Wei Zhang	Shenzhen IBR	China
9:50-10:00	Break			
10:00-11:10	Session 7: Low carbon cities and urban climates	Chair: Dr. Lixing Gu	Florida Solar Energy Center	USA
10:00-10:30	Low carbon buildings and urban scale projects	Phillip Jones	Cardiff University	UK
10:30-10:50	Low carbon economy in cities of China possibilities to estimate potential of CO ₂ emissions	Hans-Peter Leimer	University of Applied Sciences and Arts - HAWK Hildesheim/Germany	Germany
10:50-11:05	The stone forest as a small-scale field model for the urban climate studies	Kai Wang	Hong Kong University	China
11:05-11:20	Temporal variability of moisture environment in the urban canopy layer in Hong Kong	Yi Wang	Hong Kong University	China
11:20-11:35	Closing ceremony			
11:35-12:00	Break			
12:00-13:00	Lunch			
13:00-14:00	Travel from Longgang to Shenzhen Institute of Building Research building			
14:00-16:00	Green building technical tour II: Tour of the Shenzhen IBR building			
14:00-16:00	IBR advisors' meeting			

Service Center

Tel: 0755-84560790 84560791

Location: Shenzhen International Low-Carbon City Exhibition Center Comprehensive Service Center 1st floor

Contacts of the Organizing Committee

Organizing committee office:

Chen Peng 1830755560

Suduan Huang 13751066539

Gang Liu 18307555784

News Center

The organizing committee sets up a news center to provide media staffs with fax, Internet access and related news services.

Opening hours: 9:00am —18:00pm

Location: Trading Hall CC203

Contact: Yin Chen 15913192035

Conference Site

Shenzhen International Low-Carbon City Trading Hall C309

深圳国际低碳城会展中心交易馆C309

Address: Initiating zone of Shenzhen International Low-Carbon City, Pingdi, Longgang District, Shenzhen

地址：深圳市龙岗区坪地街道·深圳国际低碳城启动区



Conference Accommodations

The Pearl Crowne Plaza Hotel

珠江皇冠假日酒店

Address: Longgang District Center City Lung Cheung Road No. 9009

地址：龙岗区中心城龙翔大道9009号

Tel : (86) 755 3318 1888

Fax : (86) 755 3321 0000

Contact : Yang Xiaoye 13725599025 Liang Yi 13684969766



Registration

a)Time : July 12:14:00-20:00

Place : Main Lobby of Crowne Plaza

b)Time : July 13:20-9:00

Place : the 3rd Floor of Trading Hall, Shenzhen International Low-Carbon City

Registration is by invitation only. Please bring your ID to register.

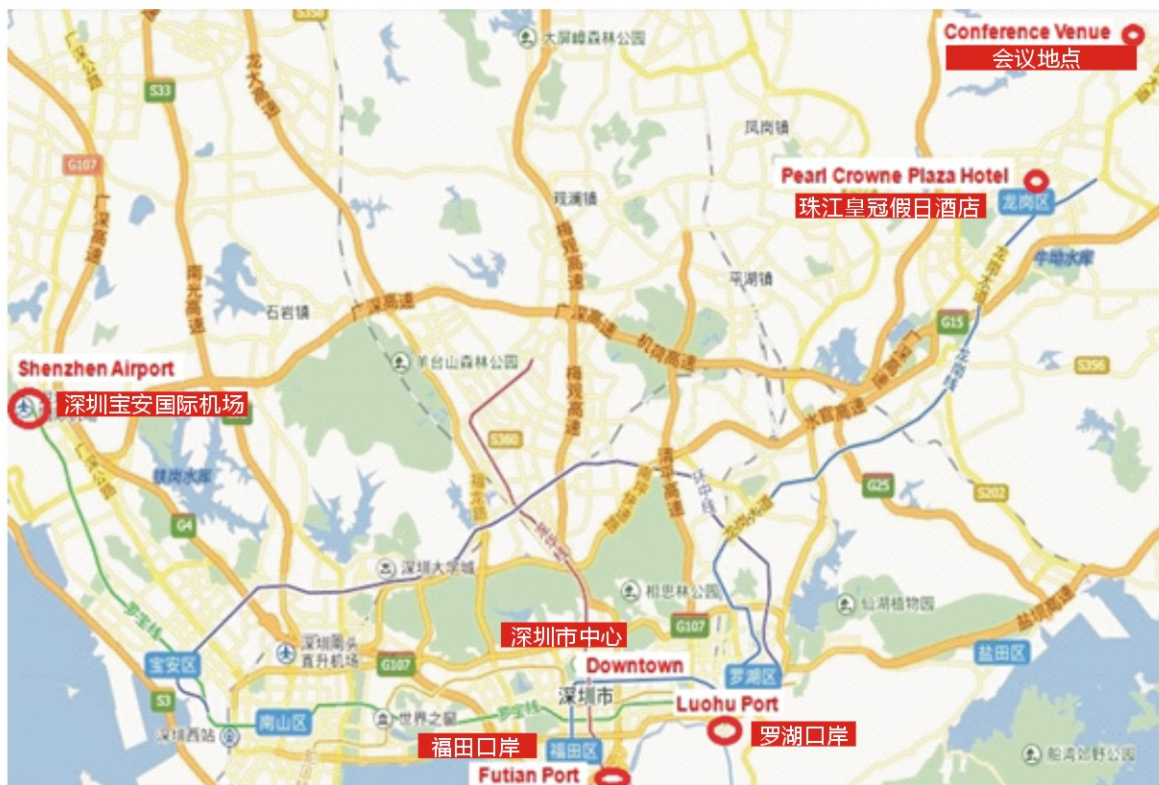
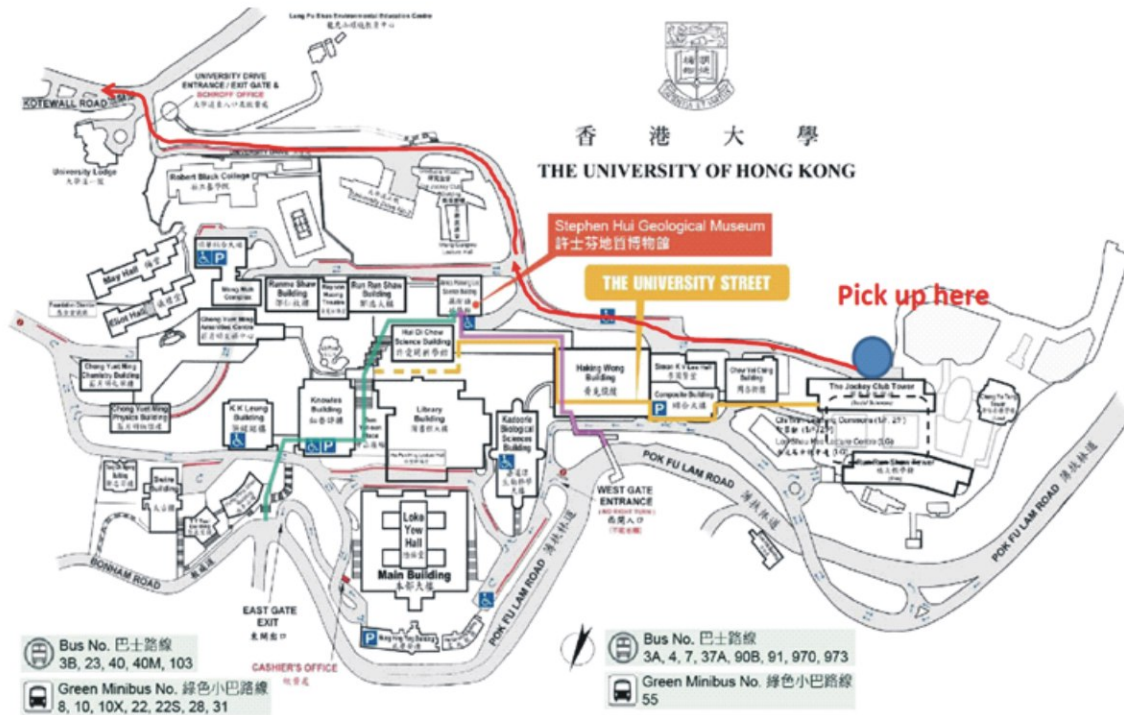
Transportation

a)Shuttle Schedule

Scheduled shuttle available as following :

Date	Departure Time	Departure from	Arriving
July 12th	17:00	Pick-up location of Indoor Air 2014 conference site	The Pearl Crowne Plaza Hotel
July 13th	08:00	The Pearl Crowne Plaza Hotel	Conference site
	18:30	Conference site	The Pearl Crowne Plaza Hotel
	20:30	Conference site	The Pearl Crowne Plaza Hotel
July 14th	08:00	The Pearl Crowne Plaza Hotel	Conference site
	13:00	Conference site	IBR Building

b)Estimated time of travel by car: From Shenzhen Bao-an International Airport 1.5 hr, from Shenzhen train station 1 hr. Please adjust your travel schedule accordingly. c)The Pearl Crowne Plaza Hotel has the bus service to Hong Kong International Airport and Shenzhen Bao-an International Airport.



Meals

Meal schedule:

July 13th Lunch : 12:25—13:25

July 14th Lunch : 12:00—13:00

July 13th Dinner : 18:30—20:00

Lunch Place: Trading Hall Basement, Robotic Restaurant

Dinner Place: Coconut Grove Plaza (Rainy day venue: 1st floor of Trading Hall)

Meals only available with conference card.

Language

Chinese and English. Simultaneous interpretation devices are available at the conference site and dispensed with identity cards or passports as deposit. In the conference, simultaneous interpretation will be in Chinese (channel 1) and English (channel 2).

Voltage

The voltage is AC 220 V in China. Two-phase and three-phase sockets are available in hotel rooms.

Security

Contact: Kun Qiu 18307555707 Jiqiang Gao 15914106610

Reminder

Please wear the conference card to the meeting place. Please arrive at the venue 10 minutes ahead, sit as directed, keep quiet during meeting.

Please turn off your mobile phones and other electronic devices, or set it to mute before meeting begins. Please do not smoke in conference venue.

In order to promote low carbon lifestyle, please wear short sleeve clothing.