

2009 NTU/KAUST Workshop on Solar Building Technology Development

Date: April 21 (Tue), 2009

Venue:

Auditorium (Engineering Complex Building, Room 203)

National Taiwan University, No.1, Section 4, Roosevelt Rd, Taipei, Taiwan

Sponsor:

New Energy Center, National Taiwan University; KAUST GRP Center in NTU, Taiwan; Department of Industrial Technology of the Ministry of Economic Affairs, Taiwan; New and Solar Energy Society of Taiwan.

Agenda:

About 50% of energy in the world is consumed within various buildings. Air conditioning and heating consumes about 30-50%, and lighting consumes about 10-25% of the total building energy consumption. Reducing the energy consumption of them can contribute a great deal on reduction of global warming.

Solar building technology basically consists of three major topics: efficient and eco-friendly energy utilization, renewable energy supply, and



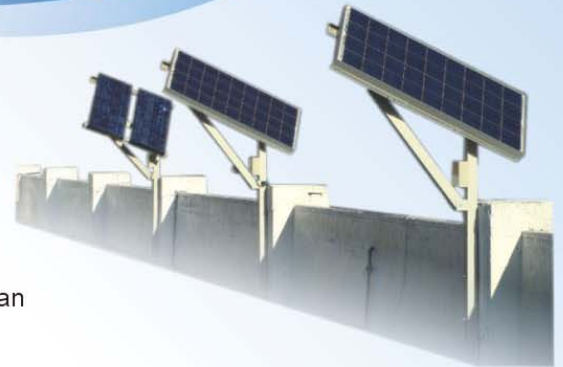
Contact us:

Prof. Bin-Juine Huang
PI, KAUST GRP CID/NTU
Department of Mechanical Engineering
National Taiwan University, No. 1 Sec. 4 Roosevelt Rd.,
Taipei, Taiwan 10617
Tel : +886-2-33669791
Fax : +886-2-23671182
Email: bjhuang@seed.net.tw

architecture design for low-energy consumption and environmental protection. New Energy Center at Department of Mechanical Engineering, National Taiwan University has been awarded as a KAUST GRP Center-in-Development by King Abdullah University of Science and Technology (KAUST) for the research and development of unique and leading solar building technology that have the potential to incubate or spawn a new industry for national economy.

This workshop is organized by NTU to invite academia and industrial people to exchange new knowledge and novel ideas through invited seminars and presentations focusing on the development of solar building technology and energy industry for national economy. This workshop will present the research results of KAUST GRP Center-in-Development Award at NTU to the public and to seek for future collaboration.

Mr. Chien-Te Liu
Project Manager, KAUST GRP CID/NTU
National Taiwan University, No. 1 Sec. 4 Roosevelt Rd.,
Taipei, Taiwan 10617
Tel : +886-2-23620442
Fax : +886-2-23671182
Email: ct.liu@msa.hinet.net



Program

08:30-09:00	Registration
09:00-09:10	Opening speech (President Lee, NTU)
09:10-09:20	Guest speech / chief advisory board, KAUST GRP CID/NTU Dr.Jason Pei (former President, Foxconn Technology Co.)
09:20-12:00	Invited lecture
09:20-10:10	Lecture I: Kyung Hoi Lee, President, Korea Research Institute of Eco-Environmental Architecture - Professor Emeritus, Yonsei University "The state-of-the-art sustainable building technologies in Korea with particular reference to solar energy"
10:10-10:30	Break
10:30-11:20	Lecture II: Prof. Yoshio Kato, Visiting Professor of Dept of Architecture, Tamkang University. "Situation of sustainable architecture development in Taiwan, Japan and rest of the world"
11:20-12:00	Lecture III: Development of solar building industry for national economy 1) B.J. Huang (PI/KAUST GRP CID Award in NTU): Solar building technology and industry development for national economy 2) C.Y. Ling (Deputy Director, Development of Industrial Technology, Ministry of Economic Affairs, Taiwan): Role of government in the technology development for national economy
12:00-13:20	Lunch
13:20-17:00	Presentation of KAUST GRP CID Award
13:20-13:30	Overview of KAUST Center Award NTU [B.J. Huang]
13:30-13:45	A-1 Ejector cooling system design [Volodymyr Petrenko, Kostyantyn Shestopalov, S.L. Chen, B.J. Huang]
13:45-14:00	A-2 Solar-assisted cooling/heating (SACH) system technology [J.H. Wu, J.M. Chang, B.J. Huang, R.H. Yen]
14:00-14:15	A-3 Development of solar-assisted membrane distillation systems [D.M. Wang]
14:15-14:30	A-4 Solar collector development for building [Y.H. Lin, P. E. Yang, B.J. Huang, R.H. Yen]
14:30-14:45	Break
14:45-15:00	B-1 Solar-powered LED lighting system technology [M.S. Wu, Y.S. Lo, S.J. Chi, P.Y. Ho, B.J. Huang]
15:00-15:15	B-2 Storage device for solar-powered LED lighting [N.L. Wu]
15:15-15:30	B-3 Dye-sensitized solar cell (DSSC) [K.C. Ho, J.J. Lin]
15:30-15:45	B-4 Self-clean glazing material [P.H. Chen, J.S. Lin]
15:45-16:00	Break
16:00-17:00	KAUST Discovery Students presentation on design projects (4 reports) : 1) 1 axis-3 angle tracking PV [Tareq Majed Yasin Malas, Abdulelah Bin Mahfodh, Emad Al-Hemyari, W.L. Ding] 2) Solar thermoelectric generator [Tamer Shahin, L.Z. Tsai] 3) Capturing water from air using solar PV-powered DC compressor [Ernesto Sandoval Curiel, Y.P. Lin, Y.C. Lin] 4) Double-effect solar distillation [Karina Rahmawati, C.J. Hsueh, M.H. Wong, P.E. Yang]
17:00-17:10	Discussions

