

Editors in Chief:  
**WANG Ruzhu and ZHANG Peng**

# **Cryogenics and Refrigeration**

— Proceedings of ICCR'2008

**April 5-9, 2008**

*Shanghai Jiao Tong University, Shanghai, P. R. China*



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## Preface

On behalf of the International Scientific and Technical Committee, and also the local Organizing Committee, we would like to welcome you to attend the International Conference on Cryogenics & Refrigeration (ICCR' 2008). ICCR is a conference sponsored by the International Institute of Refrigeration (IIR), ICCR'2008 is honored to celebrate the 100 year anniversary of IIR in 2008.

The International Conference on Cryogenics and Refrigeration (ICCR) had been successfully held in Zhejiang University (ZJU) in Hangzhou, China for three times in 1989, 1998 and 2003, respectively. The purpose of this conference is to stimulate the fruitful exchange of information and ideas in cryogenics, refrigeration and other related topics. Starting from ICCR'2003, the ICCR had become a joint program of Shanghai Jiao Tong University (SJTU) and ZJU and it was decided to make ICCR a series conference every 5 years with location in Hangzhou and Shanghai respectively. The Fourth International Conference on Cryogenics and Refrigeration (ICCR'2008) was planed to be held on April 5-9, 2008 at Shanghai Jiao Tong University in Shanghai, China.

As is clear that China is already the biggest manufacturers of HVAC & R, a lot of international well-known companies have their companies and research centers in China now. The local Chinese companies have been growing up in recent years. There are about 150 universities involved in education of refrigeration and HVAC in China. All these give you the reason to attend ICCR.

Shanghai Jiao Tong University is happy to have a strong Institute of Refrigeration & Cryogenics with 16 full professors and 30 faculty members, and about 180 graduate students. The research areas covers refrigeration, cryogenics, HVAC, solar energy and other energy related topics. The institute was moved from the Xujiahui old campus to Minhang new campus in 2006. We are happy to welcome all the participants in the new campus and new laboratory buildings.

ICCR is also co-sponsored by Chinese Association of Refrigeration (CAR), National Natural Science Foundation (NSFC), Ministry of Education (MOE). The financial support from Daikin, Heatcraft, Trane and Sumitomo Heavy Industry has helped ICCR' 2008 a lot. We are also very grateful to the financial support from Shanghai Jiao Tong University Education Development Foundation.

The ICCR'2008 proceedings includes nearly 200 papers (with 6 plenary lectures and 9 keynote lectures). The ICCR' 2008 will provide a unique opportunity to meet international experts and research teams working in Refrigeration, Cryogenics and HVAC.

We hope that ICCR'2008 will be fruitful for you. We are happy to meet you in Shanghai!



WANG Ruzhu

Chairman of ICCR'2008



ZHANG Peng

Secretary General of ICCR'2008

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