

FINAL REPORT



# 14<sup>th</sup> ICC

## The 14<sup>th</sup> International Congress on Catalysis



Catalysis as the Pivotal Technology for the Future Society

**July 13-18, 2008**

**COEX, Seoul, Korea**



Prof. Alexis T. Bell  
President of the IACS  
Univ. of California at Berkeley, U. S. A.

October 22, 2008

Dear Prof. Bell,

I hereby submit the Final Report of the 14<sup>th</sup> International Congress on Catalysis (ICC) held in Seoul, Korea during the period of July 13 ~ 18, 2008. On behalf of the Organizing Committee of the ICC, I would like to express again our deep appreciation for your cooperation in the preparation of the Congress.

Sincerely,

Sang H. Moon  
Chairman of the Organizing Committee  
Seoul National University, Korea

## **Content**

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## I. Organization

### 1-1. ICC Organizing Committee

Chairman: Sang Heup Moon (Seoul Nat. Univ.)

Scientific: Seong-Ihl Woo (KAIST), O-Bong Yang (Chunbuk Nat. Univ.)

Sang Eon Park (Inha Univ.), Dong Jin Suh (KIST)

Finance: In-Sik Nam (POSTECH), Chae Ho Shin (Chungbuk Nat. Univ.)

Tae Jin Park (KIST)

Program: Jae Sung Lee (POSTECH), Kwan Young Lee (Korea Univ.)

Wha Seung Ahn (Inha Univ.), Yong Gun Shul (Yonsei Univ.)

Secretariat: In Kyu Song (Seoul Nat. Univ.), Shin Hoe Lee (Seoul Nat. Univ.)

Jae Soon Song (Hanjin), Min Jeong Kim (Hanjin)

### 1-2. IACS Executive Committee and Advisory Board

#### IACS Executive Committee

Prof. A.T. Bell, Univ. of California, USA (President)

Prof. C. Li, Dalian Inst. of Chemical Physics, China (Vice President)

Prof. I.-S. Nam, POSTECH, Korea (Secretary)

Prof. G. Hutchings, Univ. of Wales, UK (Treasurer)

Prof. M. Iwamoto, Tokyo Inst. of Tech., Japan (IACS Officer)

#### International Advisory Board

A. Adesina (Australia), M. Anpo (Japan), J.N. Armor (USA), M.A. Barteau (USA), M. Breyse (France), R. Burch (UK), N. Cant (Australia), G. Centi (Italy), M. Che (France), W.C. Conner Jr. (USA), A. Corma (Spain), G. Díaz (Mexico), K. Domen (Japan), D. Duprez (France), A. Erdohelyi (Hungary), R.J. Farrauto (USA), J.L.G. Fierro (Spain), J. Fletcher (RSA), G. Fuentes (Mexico), M. Goldwasser (Venezuela), J. Grootjans (Belgium), L. Guzzi (Hungary), J. Haber (Poland), J. Hargreaves (UK), K. Hayek (Austria), M. He (China), A. Holmen (Norway), M. Hronec (Slovakia), G. Hutchings (UK), E. Iglesia (USA), P.A. Jacobs (Belgium), S. Kasztelan (France), Z. Karpinski (Poland), E. Kikuchi (Japan), D.G. Klissurski (Bulgaria), C. Li (China), J.G. Llambias (Chile), E.A. Lombardo (Argentina), V.V. Lunin (Russia), S.B. Márquez (Spain), M. Misono (Japan), J. Monnier (Canada), M. Muhler (Germany), G. Mul (The Netherlands), F. Ng (Canada), S.H. Oh (USA), Z. Padai (Hungary), V.N. Parmon (Russia), C. Peden (USA), L.A. Petrov (Bulgaria), M.F. Portela (Portugal), A.V. Ramaswamy (India), F.R. Ribeiro (Portugal), T. Salmi (Finland), D. Sanfilippo (Italy), M. Schmal (Brazil), M. Scurrell (RSA), K. Segawa (Japan), J.J. Spivey (USA), H. Thomas (Argentina), F. Trifiro (Italy), D.L. Trimm (Australia), H. Vinek (Austria), B. Viswanathan (India), B. Weckhuysen (The Netherlands), J. Weitkamp (Germany), B. Wichterlova (Czech Republic)

#### National Advisory Board

H.R. Bae (Kocot), H. Chon (KAIST), S.J. Chung (Kyunghee Univ.), B.-H. Ha (Hanyang Univ.), H.S. Han (Heesung Engelhard), S.-K. Ihm (KAIST), K.S. Jung (GS-Caltex Corp.), S.K. Kang (KIER), Y.G. Kim (POSTECH), H. Lee (Yonsei Univ.), H.-I. Lee (Seoul Nat'l Univ.), J.M. Lee (KRICT), K.H. Lee (POSTECH), S.K. Lee (Süd-chemie Cat.), W.Y. Lee (Seoul Nat'l Univ.), J.T. Park (KAIST), S.H. Park (SK Corp.), H.-K. Rhee (Seoul Nat'l Univ.), G. Seo (Chonnam Nat'l Univ.), J.R. Sohn (Kyungpook Nat'l Univ.), Y.S. Uh (Younglin Instrum.), S.J. Uhm (KIST), J.E. Yie (Ajou Univ.), J.-N. Yoo (LG Chem.), H.K. Youn (Daelim Ind.), C. Kim (Honam Petrochem.).



- (1) A list of potential participants to the 14<sup>th</sup> ICC, together with their email addresses, was prepared based on information obtained from the 13<sup>th</sup> ICC, NAM and TOCAT.
- (2) Preparation and distribution of the 1<sup>st</sup> and 2<sup>nd</sup> circulars.

Fig. 1-1. First Circular

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### (3) Homepage

The Congress homepage ([www.icc2008korea.com](http://www.icc2008korea.com)) was open to publicize the conference in July, 2007, and was updated in May, 2008, to make on-line enrollment and abstract uploading easier.

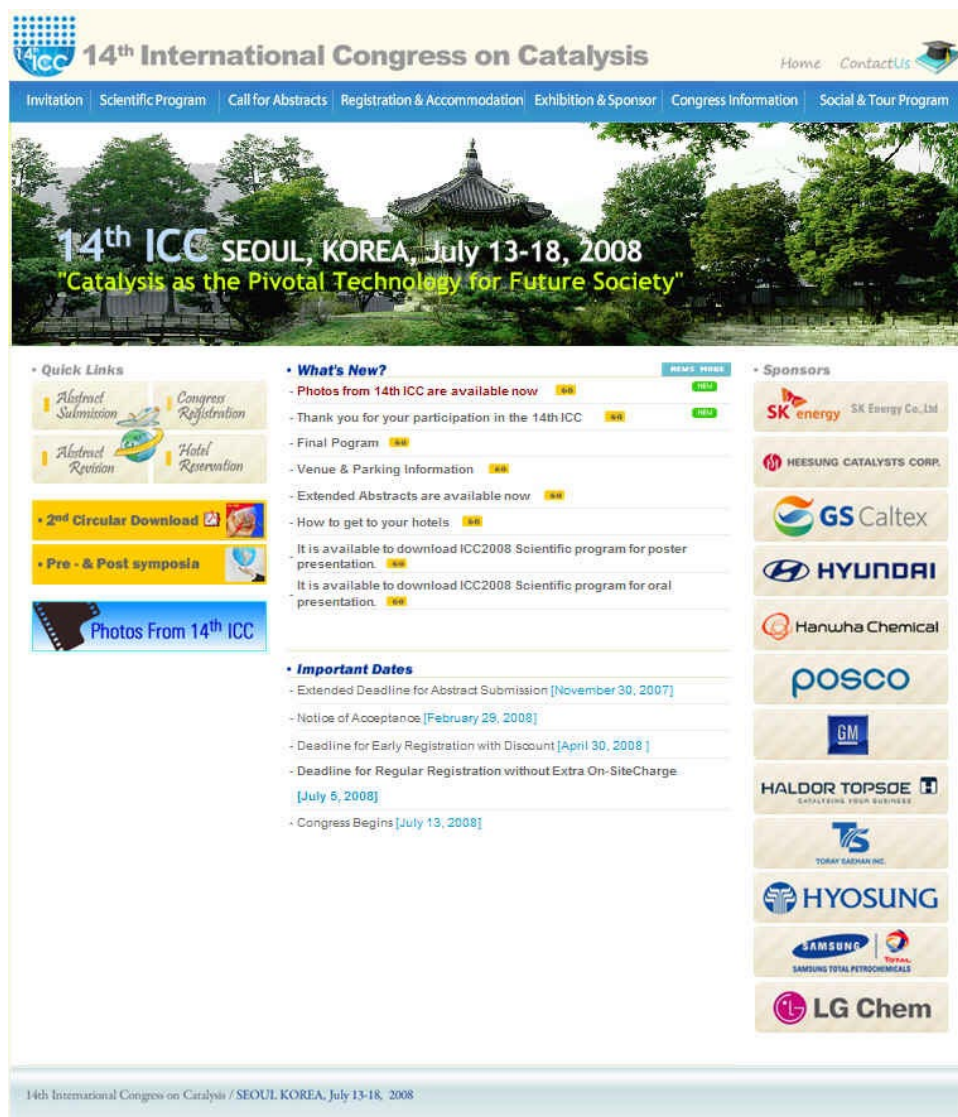


Fig. 1-3. Congress homepage

## II. Scientific Program

### 2-1. Abstract Submission

- Deadline: Initially October 31, 2007, extended to November 30, 2007
- Submitted abstracts could be revised until the end of June, 2008.
- Table 2-1 shows the statistics of 1,956 submitted abstracts according to topical categories and nations.

Table 2-1(a) Statistics of submitted abstracts by topics.

Topic	Count
1-1. Catalyst Preparation: Molecular Design of Catalysts; Catalyst Screening by High Throughput System; Immobilization of Homogeneous/Enzymatic Active Centers	169
1-2. Novel Catalytic Materials	224
1-3. Development in Catalyst Characterization Techniques: New Methods and Improvements in the Analysis of Physicochemical Properties	83
2-1. Surface Science of Molecular Level Mechanism	61
2-2. Kinetics, Modeling, and Computational Analysis	51
2-3. Theoretical and Quantum Mechanical Approaches in Catalysis	41
2-4. New Supporting Ideas from Related Scientific Disciplines	15
2-5. Understanding of Catalysis on Nanoscale	70
3-1. New Reactor Design Including Membrane and Multiphase Reactors	33
3-2. Micro Reactor Design and Process Design	16
3-3. Reactions in Non-conventional Media (Supercritical, ionic liquids)	9
4-1. New Trends in Refining / Petrochemical Processes	50
4-2. Hydrogen Production and Utilization	148
4-3. Fuel Cell and Electrocatalysis	68
4-4. Methane/Natural Gas Conversion Processes	121



4-5. Clean Fuels for Diesel Engine	78
4-6. Energy Conversion from Alternative Sources	57
5-1. Diverse Organic Transformations Catalyzed by Acid / Base or Transition Metal Complexes / Compounds either in Liquid / Gas / Solid Phase	107
5-2. Chiral Synthesis Using Homogeneous / Heterogeneous / Enzyme Catalysts	21
5-3. Selective Oxidation and Oxidative Dehydrogenation	124
5-4. Multi-phase Synthesis of Organic Intermediates	17
5-5. Polymerization	22
5-6. Deactivation and Regeneration	18
6-1. Air / Water Pollution Control by Catalytic Means	111
6-2. Reduction in Global Warming Agents	22
6-3. Catalytic Combustion	37
6-4. Environmentally Benign Catalytic Processes for Chemical Industry	88
6-5. Photocatalysis	73
Others	17
Industrial Session	5
<b>TOTAL</b>	<b>1,956</b>

Table 2-1(b) Statistics of submitted abstracts by nations.

No.	NATION	개수	No.	NATION	개수
1	ALGERIA	1	35	LITHUANIA	1
2	ANTIGUA AND BARBUDA	1	36	MALAYSIA	9
3	ARGENTINA	45	37	MEXICO	21
4	AUSTRALIA	25	38	MOROCCO	1
5	AUSTRIA	6	39	NETHERLANDS	43
6	AZERBAIJAN	13	40	NEW ZEALAND	2

7	BELGIUM	12	41	NORWAY	9
8	BRAZIL	69	42	OMAN	2
9	BULGARIA	15	43	P.R.China	404
10	BURKINA FASO	1	44	PAKISTAN	2
11	CANADA	12	45	POLAND	30
12	CHAD	1	46	PORTUGAL	5
13	CHILE	10	47	QATAR	1
14	COLOMBIA	9	48	ROMANIA	16
15	CROATIA	1	49	RUSSIAN FEDERATION	86
16	CZECH REPUBLIC	9	50	SAUDI ARABIA	2
17	DENMARK	18	51	SERBIA AND MONTENEGRO	1
18	EGYPT	2	52	SINGAPORE	21
19	FINLAND	10	53	SLOVENIA	2
20	FRANCE	114	54	SOUTH AFRICA	9
21	GERMANY	56	55	SPAIN	33
22	GREECE	10	56	SWEDEN	7
23	HONG KONG	5	57	SWITZERLAND	5
24	HUNGARY	15	58	TAIWAN	21
25	INDIA	32	59	THAILAND	14
26	INDONESIA	2	60	TIMOR-LESTE	1
27	IRAN	23	61	TUNISIA	1
28	ISRAEL	3	62	TURKEY	10
29	ITALY	68	63	UKRAINE	11

30	JAMAICA	1	64	UNITED ARAB EMIRATES	2
31	JAPAN	209	65	UNITED KINGDOM	67
32	KAZAKHSTAN	6	66	UNITED STATES OF AMERICA	146
33	KOREA, THE REPUBLIC OF	159	67	VENEZUELA	3
34	KUWAIT	3	68	VIET NAM	2
<b>Total</b>					<b>1,956</b>

## 2-2. Review of Submitted Abstracts

- Each abstract was sent to two reviewers for evaluation on January 18, 2008, requesting for a response by February 8, 2008. The review of all abstracts was completed on March 13, 2008. Four abstracts were discarded because they were submitted simply for testing the system. Table 2-2 shows the statistics of reviewers according to regions.

Table 2-2. Statistics of reviewers according to regions.

Region by authors	# of abstracts	Region by reviewers			Average # of abstracts/reviewer
		U.S.A.	Europe	Asia	
U.S.A.	626	6	406	444	2
Europe	558	351		431	2
Asia	768	363	404	14	2
Total	1,952	720	810	889	

- Authors were notified of the results. i.e., about accept/reject and oral/poster. Table 2-3 shows the statistics of abstracts according to acceptance/reject, modes of presentation, and nations.

Table 2-3(a). Statistics of review results

	Total # of submitted abstracts	Oral	Poster	Reject
Oral	1564	250	991	13
Poster	666		428	238
Total	1920	250	1419	251

Table 2-3(b). Statistics of review results

	Nation	Submitted abstracts	Requested for oral	Accepted for oral	Requested for poster	Accepted for poster	Rejected	Memo
1	ALGERIA	1			1		1	
2	ANTIGUA AND BARBUDA	1			1		1	
3	ARGENTINA	45	13	2	32	30	13	
4	AUSTRALIA	25	14	4	9	18	1	IL
5	AUSTRIA	6	4	2	2	4		
6	AZERBAIJAN	13	1		12	4	9	
7	BELGIUM	12	11	3		8		IL
8	BRAZIL	69	30	3	39	50	16	
9	BULGARIA	15	2		13	9	6	
10	BURKINA FASO	1	1	1				
11	CANADA	12	10	2	2	10		
12	CHAD	1	1					
13	CHILE	10	6		4	9	2	
14	COLOMBIA	9	9			9		

15	CROATIA	1			1		1	
16	CZECH REPUBLIC	9	6	1	3	7	1	
17	DENMARK	18	16	4	1	13		PL
18	EGYPT	2	1		1	2		
19	FINLAND	10	10	4		6		
20	FRANCE	114	103	20	11	93		
21	GERMANY	55	52	16	1	38		IL KL
22	GREECE	10	8	1	2	9		
23	HONG KONG	5	2		3	5		
24	HUNGARY	15	11	3	4	11	1	
25	INDIA	32	28	4	3	25	2	IL
26	INDONESIA	2	1		1	1	1	
27	IRAN	23	18	2	5	15	6	
28	ISRAEL	3	1	1	2	2		
3	ITALY	68	49	10	18	54	3	IL
30	JAMAICA	1	1			1		
31	JAPAN	209	113	29	89	158	15	IL
32	KAZAKHSTAN	6	1		5	2	4	
33	KOREA, THE REPUBLIC OF	159	46	15	112	104	39	
34	KUWAIT	3	3	1		2		
35	LITHUANIA	1			1	1		
36	MALAYSIA	9	6		3	7	2	
37	MEXICO	21	5	1	15	12	7	IL
38	MOROCCO	1			1	1		
39	NETHERLANDS	43	38	8	3			IL
40	NEW ZEALAND	2	2			35		
41	NORWAY	9	8	1	1	8		
42	OMAN	2			2	2		
43	P.R.China	404	253	16	149	306	80	IL
44	PAKISTAN	2	1		1	2		
45	POLAND	30	16	3	14	20	7	
46	PORTUGAL	5	1	1	4	2	2	
47	QATAR	1			1	1		



48	ROMANIA	16	7	1	9	11	4	
49	RUSSIAN FEDERATION	86	68	11	18	69	6	
50	SAUDI ARABIA	2	2			2		
51	SERBIA AND MONTENEGRO	1			1	1		
52	SINGAPORE	21	17	4	4	16	1	
53	SLOVENIA	2	2			2		
54	SOUTH AFRICA	9	8	3	1	6		
3	SPAIN	33	22	3	11	29	1	
56	SWEDEN	8	6	2	2	6		
57	SWITZERLAND	5	3	1	1	3		PL
58	TAIWAN	21	8	2	12	11	7	IL
59	THAILAND	14	9	2	5	11	1	
60	TIMOR-LESTE	1	1			1		
61	TUNISIA	1			1		1	
62	TURKEY	10	9	1	1	8	1	
63	UKRAINE	11	5	1	6	7	3	
64	UNITED ARAB EMIRATES	2			2	1	1	
65	UNITED KINGDOM	66	58	13	7	52		KL
66	UNITED STATES OF AMERICA	144	127	48	10	85	3	IL KL PL
67	VENEZUELA	3	1		2	2	1	
68	VIETNAM	2	1		1	1	1	
Total		1,953	1,256	250	666	1,420	251	

Table 2-4. Statistics of posters that were not mounted (classified by nations)

No.	Author Nation	Absent abstracts	No.	Author Nation	Absent abstracts
1	ARGENTINA	12	26	KUWAIT	1
2	AUSTRALIA	4	27	MALAYSIA	2
3	AUSTRIA	1	28	MEXICO	5
4	AZERBAIJAN	3	29	MOROCCO	1

5	BELGIUM	1	30	NETHERLANDS	3
6	BRAZIL	14	31	NORWAY	1
7	BULGARIA	2	32	P.R.China	55
8	CANADA	6	33	PAKISTAN	2
9	CHAD	1	34	POLAND	2
10	CHILE	6	35	PORTUGAL	2
11	COLOMBIA	1	36	ROMANIA	3
12	CROATIA	1	37	RUSSIAN FEDERATION	24
13	DENMARK	5	38	SAUDI ARABIA	1
14	EGYPT	2	39	SINGAPORE	7
15	FRANCE	28	40	SLOVENIA	1
16	GERMANY	3	41	SPAIN	2
17	GREECE	4	42	SWEDEN	1
18	INDIA	11	43	SWITZERLAND	1
19	INDONESIA	1	44	TAIWAN	4
20	IRAN	8	45	THAILAND	3
21	ISRAEL	1	46	TURKEY	2
22	ITALY	13	47	UKRAINE	3
23	JAPAN	9	48	UNITED ARAB EMIRATES	1
24	KAZAKHSTAN	3	49	UNITED KINGDOM	20
25	KOREA, THE REPUBLIC OF	6	50	UNITED STATES OF AMERICA	8
Total					301

### 2-3. Plenary, Keynote, Invited, and Award Lectures

- Details of PL (6), AL (1), KN (13), and IL (18) are given in Abstract Book.

## **2-4. Industrial Session**

- The 14th ICC organized a special "Industrial Session" in parallel with other scientific oral sessions on the second day of the Congress, July 15 (Tue), accommodating 15 oral presentations (20 minutes) and two 40-minute keynote lectures. The purpose of this session was to introduce new catalysts and catalytic processes developed by industry during the previous 4 years. This was a new attempt in the history of the ICC to emphasize the importance of industrial research in catalysis.
- Details of presentations in the industrial session are given in Abstract Book.

## **2-5. Satellite Symposia**

### **(1) Pre-Congress Symposia**

#### **[1-1] Creation and Control of Advanced Selective Catalysis**

(In celebration of the 50th anniversary of the Catalysis Society of Japan)

Chairman: Prof. Y. Iwasawa

Period: July 9~11, 2008, Place: Kyoto, Japan

Participants: 536, Presentations: 131 (Oral), 238 (Poster)

#### **[1-2] Nanocatalysis: Fundamentals and Applications**

Chairman: Prof. C. Li

Period: July 9~11, 2008, Place: Dalian, China

Participants: 182, Presentations: 57 (Oral), 126 (Poster)

#### **[1-3] Hydrocarbon Selective Oxidation and Syngas Conversion Catalysis**

Chairman: Prof. Y. Wang

Period: July 9~11, 2008, Place: Xiamen, China

Participants: 98, Presentations: 29 (Oral), 41 (Poster)

### **(2) Post-Congress Symposia**

[2-1] Catalysis for Hydrogen Energy Production and Utilization

Chairman: Prof. Jae S. Lee

Period: July 20~22, 2008, Place: Geongju, Korea

Participants: 170, Presentations: 54 (Oral), 78 (Poster)

[2-2] First International Combinatorial Catalysis Symposium

Chairman: Prof. Seong Ihl Woo

Period: July 20~22, 2008, Place: Daejeon, Korea

Participants: 83, Presentations: 30 (Oral), 15 (Poster)

[2-3] International Symposium on Catalysis for Ultra Clean Fuels

Chairman: Prof. C. Song

Period: July 21~24, 2008, Place: Dalian, China

Participants: ??, Presentations: ?? (Oral), ?? (Poster)

[2-4] Related Symposium: 2008 KZA Nanoporous Materials Workshop

Chairman: Prof. K. B. Yoon

Period: July 19~20, 2008, Place: Seoul, Korea

Participants: ??, Presentations: ?? (Oral), ?? (Poster)

### **III. Congress Program**

#### **1. Venue: COEX (The Convention and Exhibition Center)**

##### **1-1. Lecture Halls**

**(1) Auditorium (1,058 seats)**

- Opening Ceremony, Plenary Lecture, Award Lecture

**(2) Grand Ballroom (Rm. 101-105)**

- Welcoming Reception; Congress Banquet
- Opening Ceremony (also broadcast in Rm. 103), Closing Ceremony (Rm. 103)
- Oral Sessions (101, 102, 104 and 105 with max 300 seats; 103 with max 600 seats)

**(3) Comments**

- ☐ (a) The limited capacity of auditorium was not a problem in the opening ceremony because additional audience was accommodated by broadcasting in Rm. 103.
- (b) Room for the industrial session on Tuesday was switched from 105 to 103 to accommodate a large audience exceeding 300.
- (c) A few mistakes were made during the early operation of beam projectors and timer clocks. Later, digital timer clock was projected on the screen together the presentation materials, which was appreciated by many participants.



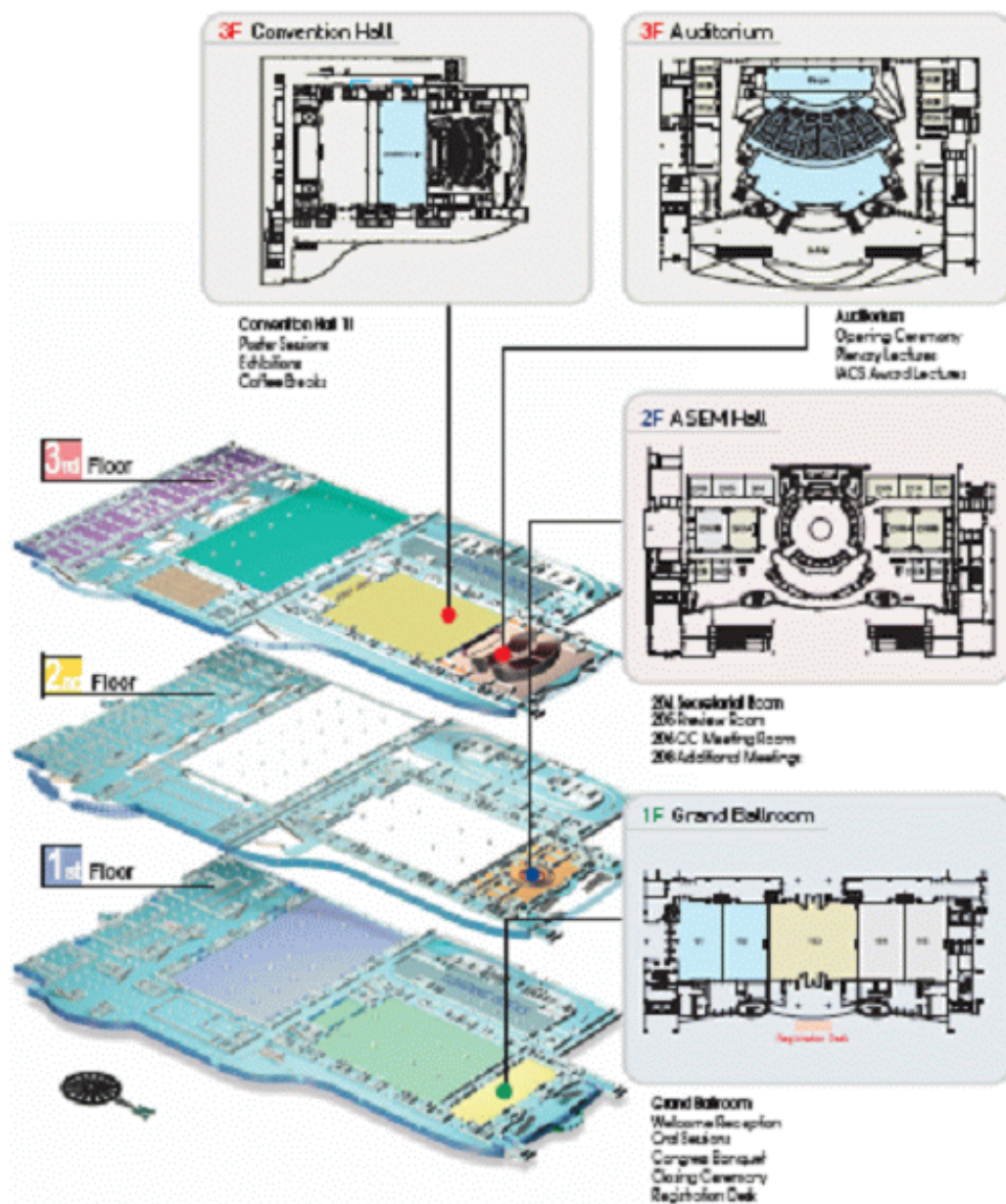


Fig. 3-1. Venue Layout

## 1-2. Posters/Exhibitions

### (1) Venue: Convention Hall II

- Exhibition, Posters, Internet Café, Coffee Break
- Light beverage and snack were provided during poster sessions.

### (2) Comments

- (a) Capacity of the hall was sufficiently large. Sites for coffee and snack service were temporarily crowded but the situation was rapidly improved. Tea was provided during coffee breaks from the second day.
- (b) Ample space was provided between poster boards by allowing a distance of 4 m between poster alleys. Each poster was given an individual extra light for improved visibility but a number of posters were not mounted, thus making the extra light useless.
- (c) Internet café was used by many participants. Additional internet jacks were provided for those who carried their computers. □

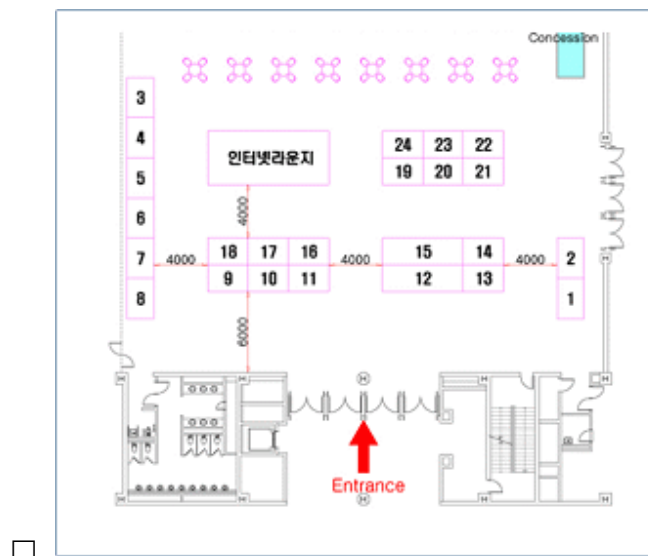


Fig. 3-2. Exhibition Area

## 2. Final Program, Abstract Books, Extended Abstract DVD

### 2-1. Final Program

- A 40 Page program book contained welcome message, organization, Congress information, program at a glance, plenary lectures/IACS award lectures, scientific program, poster presentation, social program, exhibition, venue layout, and advertisement of sponsors.

□

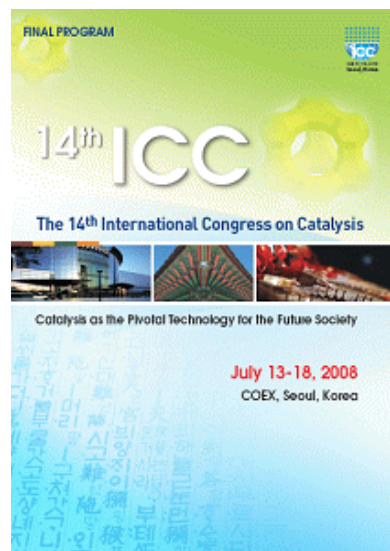


Fig. 3-3. Final Program

### 2-2. Abstract Book

#### (1) Preparation

1,800 copies of abstract book and extended abstract DVD were made for distribution among participants. Abstract book contained the abstracts of *ca* 1,600 presentations. Either 2 or 4

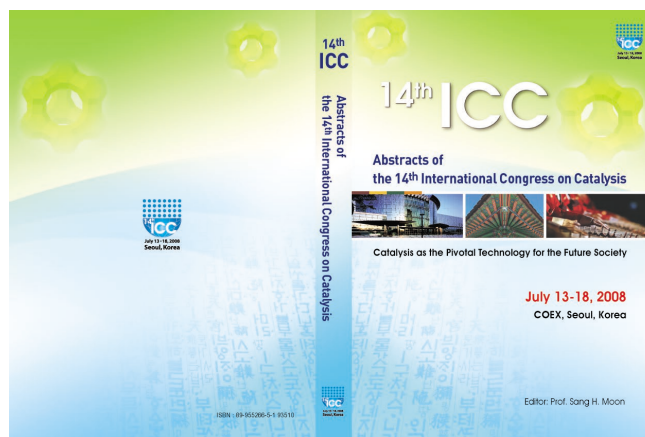


Fig. 3-4. Cover of Abstract Book

abstracts were included on each pages according to oral or poster presentation, respectively. Plenary and keynote lectures were grouped separately, but invited lectures were grouped together with other orals according to the subjects.

#### (2) Comments

Many authors of posters did not come to the Congress, although their abstracts were included in the book. It is recommended that only the abstracts of registered participants will be included in the book in the future Congress.

### 2-3. Extended Abstract DVD

- DVD, instead of CD, was made for 2-page extended abstracts due to a large memory size of the content.

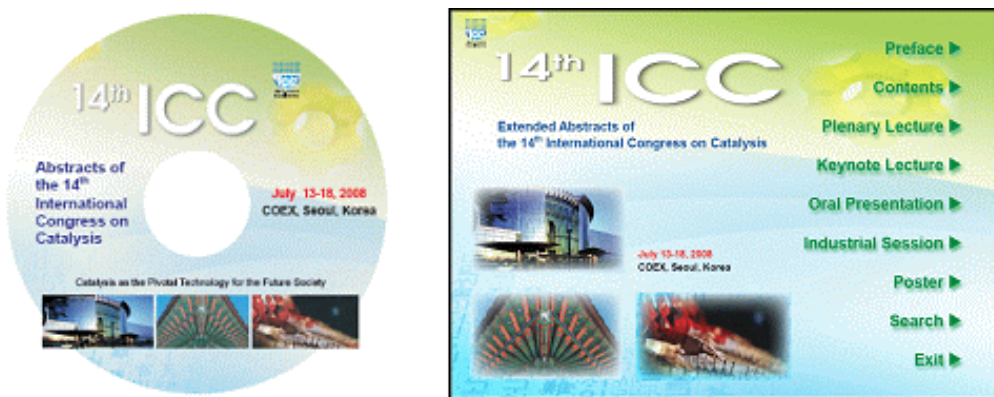


Fig. 3-5. Cover and Main Page of Extended Abstract DVD

## 3. Registration

### 3-1. Registration Desk

#### (1) Operation

Three and one desks were prepared for pre- and on-site registrations, respectively. Each participant was given an envelop



Fig. 3-6. Congress Kit Coupon

containing Receipt, Certificate of Attendance, Name Badge and Coupons for different programs, and a Congress Kit Coupon for exchange with a bag containing Final Program, Abstract Book, Extended Abstract DVD and a foldable umbrella as a Congress souvenir.



Fig. 3-7. Certificate of Attendance

## (2) Comments

The Pre-registration desk was crowded in the afternoon of Sunday and the morning of Monday. Computer lines were increased to solve the problem. Not many complaints were received.

□

## 3-2. Receipt

The 14<sup>th</sup> International Congress on Catalysis  
제14차 국제촉매학술대회

영 수 증

◆ 번 호 : \_\_\_\_\_ ◆ 이 름 : \_\_\_\_\_

◆ 발 행 일 : 2008 년 7 월 \_\_\_\_ 일

◆ 지불방법 : 현금 / 신용카드

◆ 등록비

Category	Registration Fee
Standard Registration	□ 540,000 원
Parent	□ 560,000 원
Student	□ 270,000 원
On-day Registration (Standard)	□ 220,000 원
On-day Registration (Parent)	□ 130,000 원
On-day Registration (Student)	□ 80,000 원
Accompanying Person	□ 130,000 원
Others ( )	

합 계 : \_\_\_\_\_

※최대 금액 제14차 국제촉매학회 등록비용을 확인하십시오.

제14차 국제촉매학회 조직위원장 문 상 출

The 14<sup>th</sup> International Congress on Catalysis

RECEIPT

◆ NO. : \_\_\_\_\_ ◆ Name : \_\_\_\_\_

◆ Issued Date : July \_\_\_\_\_, 2008

◆ Payment Method : Cash / Credit Card

◆ Fee

Category	Registration Fee
Standard Registration	□ US \$ 900
Parent	□ US \$ 930
Student	□ US \$ 300
On-day Registration (Standard)	□ US \$ 187
On-day Registration (Parent)	□ US \$ 110
On-day Registration (Student)	□ US \$ 100
Accompanying Person	□ US \$ 150
Others ( )	

Total Amount : \_\_\_\_\_

Hereby we certify that we received the amount as above for the registration fee of ICC2008.

Prof. Sang H. Moon  
Chairman  
Organizing Committee of the 14<sup>th</sup> ICC

Fig. 3-8. Receipt in Korean or English



### 3-3. Name Badge

- Types: Participant, Staff, Student, Exhibitor, Accompanying Person
- Additional tags were attached to the name badge according to the role of the tag holder: Session Chair, Plenary Speaker, Keynote Speaker, Invited Speaker, Speaker, Organizing Committee

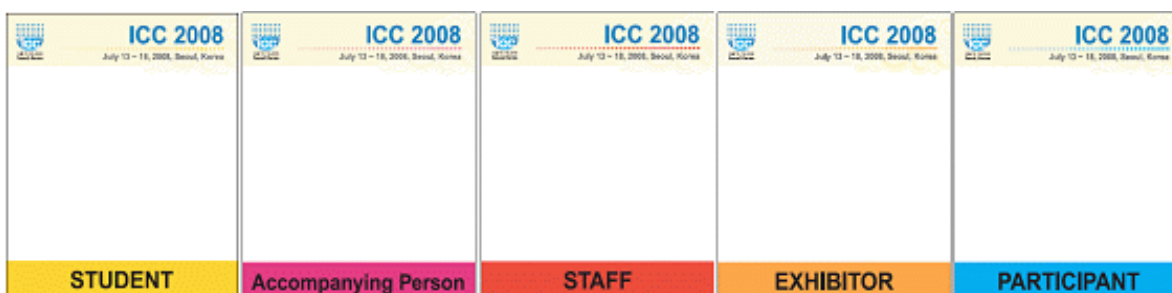


Fig. 3-9. Name badges of 5 different types

### 3-4. Placard and Information Board

#### (1) ICC placards

- Placed at the entrances of Grand Ballroom and Convention Hall, and at the front stage of Auditorium.
- Different placards were used for the Welcome Reception and Congress Banquet



Fig. 3-10. Additional tags



Fig. 3-11. ICC Placard



Fig. 3-12. Placards for Welcome Reception and Congress Banquet

## (2) Information Board

- Installed at 3 places to show Program, Venue layout, and Exhibition.

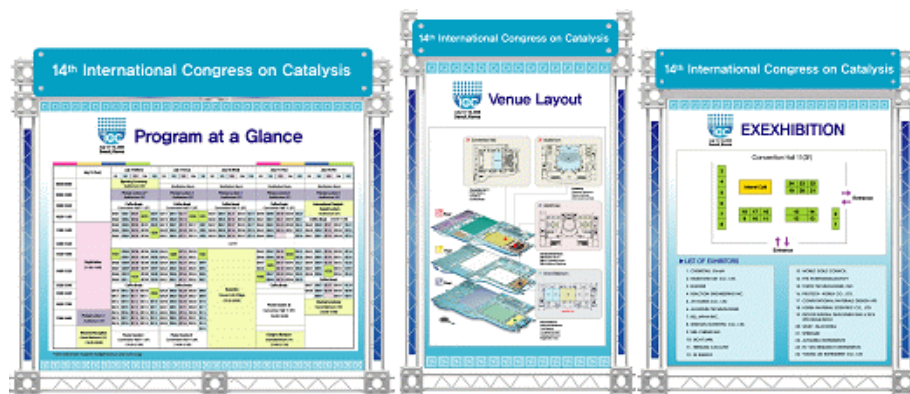


Fig. 3-13. Large information boards to show Program, Venue Layout, and Exhibition

## (3) X-banner and Podium Logo

- X-banners were placed at 48 places for the guidance of venues and directions.
- ICC logo was placed on the podium.



Fig. 3-14. X-banners and Podium Logo

(4) Others

- Placards showing the company logos of Congress sponsors were placed at poster area and Congress Banquet.

## 4. Social Programs and Ceremonies

### 4-1. Welcome Reception

(1) Time: July 13 (Sun) 6~8 p.m., Place: Convention Hall

- Master: Prof. Ahn
- Addresses by Organizing Chairman (Prof. Moon) and IACS President (Prof. Bell).
- Toast by Former ICC Chairperson (Prof. Breysse)
- String Quartet

(2) Comment

- Loudly mood due to conversations among many participants, but all were happy with a plenty of food and beverage.



Fig. 3-15. Beverage Coupon

### 4-2. Opening Ceremony

(1) Time: July 14 (Mon) 8:30~9 a.m., Place: Auditorium

- Started with a traditional performance with music.
- Master: Prof. Lee
- Addresses by Organizing Chairman (Prof. Moon), KICChE President (Prof. Kim), KAST President (Prof. Rhee) and IACS President (Prof. Bell).

(2) Comment

- Additional participants were accommodated in Rm. 103 with the broadcast of the ceremony.

#### 4-3. Congress Banquet

(1) Time: July 17 (Thur) 6:30~9 p.m., Place:

Convention Hall

- Cocktail reception from 6:20 p.m.

- Master: Prof. Nam

- Addresses: Organizing Chairman (Prof. Moon), CEO of Heesung (Mr. Choi)

- Awards by IACS President (Prof. Bell)

- \* Heinz Heinemann Award in Catalyst Science and Technology (Prof. Dumesic)

- \* International Catalysis Award (Prof. Hartwig)

- \* Plaque of Appreciation (Prof. Breyse)

- \* Young Scientist Award (List shown on screen).

- Remarks by Prof. Tamaru

- Toast by Prof. Schrock

- Dinner

- Introduction to Catalysis in Korea (Prof. Moon)

- Introduction to forthcoming conferences (ICC, NAM, Europacat, TOCAT/APCAT)

- Korean traditional musical performance



Fig. 3-16. Banquet Coupon

(2) Comment

- A long time gap between the end of oral sessions and the start of the banquet made participants wait. Area for cocktail reception in front of the Banquet Hall was warm due to the weather. Banquet ended about 30 minutes behind the schedule.

<p>P R O G R A M</p> <p>14<sup>th</sup> International Congress on Catalysis . . . . .</p> <h1>Congress Banquet</h1> <p>  At 19:00, July 18, 2008 Grand Ballroom (IF), COEX, Seoul</p>  <p>Organized by <b>KCC2008 Organizing Committee</b></p>	<p><b>14<sup>th</sup> International Congress on Catalysis</b></p> <ul style="list-style-type: none"> <li>- Congress Banquet Program -</li> <li>■ Opening by Prof. In-Sik Nam (Chair, Financial Committee of 14<sup>th</sup> ICC)</li> <li>■ Banquet Remarks by Prof. Sang H. Moon (Chair, 14<sup>th</sup> ICC)</li> <li>■ Congratulatory Remarks by Mr. Sung-Hye Choi(CEO &amp; Vice-Chairman, Hyundai Catalysts Corp.)</li> <li>■ Presentation of Award by Prof. Alex T. Bell (President, IACC)</li> <li>■ Toast Proposal by Prof. Richard Schrodt (MIT, USA)</li> <li>■ Dinner</li> <li>■ Catalysis in Korea by Prof. Sang H. Moon (Chair, 14<sup>th</sup> ICC)</li> <li>■ Introduction to the next ICC, NAM, TOCAT</li> <li>■ Korean Traditional Performance</li> <li>■ Closing</li> </ul>
<p><b>14<sup>th</sup> International Congress on Catalysis</b></p> <h2>Korean Traditional Performance Program...</h2> <p>By Department of Traditional Korean Music in Hanyang University</p> <p>The Department of Traditional Korean Music is dedicated to research in Ethic, Vocal, Composition, and Theory. The department focuses on cultivating the talents of its students to produce highly professional scholar academicians for the field.</p> <div data-bbox="365 1341 579 1704"> <p><b>program 1</b></p> <h3>Sujeongnori</h3> <p>The literal meaning of "Sujeongnori" is to watch for long life as well-being in the future. This piece was used as accompaniment for prayers of the royal palace as well as rural folk music, Cheonggung dance. The way color and pattern music stands out as the heart of all Korean traditional music.</p> <p>Upon a background of rhythmic musical called Jangjuk, Je tango can be interpreted with improvisation by the players. With no conductor leading the assembly, players must listen carefully to each other to create harmonious music.</p> <p>In the four sections, at the end of each section, gait which plays the principal melody, often playing and solo along with the percussion instruments jinggo and jinggu, while the other instruments such as daegum, jeoggu, haegum and string keep playing. This is called "haegum accompanying sound" technique.</p> <p>Daegum large bamboo bandob (flute), jinggu small flute, jinggu large bamboo bandob, daegum three stringed fiddle, aging two-stringed zither, jinggo throughout chord, jinggo dancing drum, job (bamboo clapper) play, Jeogju.</p> </div> <div data-bbox="579 1341 785 1704"> <p><b>A Set of Folk Songs</b> (Cheongsonggol, Cheongsonggan or jeoggu, Baeksoon, and Jap Baeksoon)</p> <p><b>Cheongsonggul</b> . . . . . Songgul is a representative folk song of Jeolla Province. The term "songgul" indicates the god of the house etc. Songgul got its name. It was performed when one builds a house or moves to another place for peace and fortune. Songs were performed by a chorale or a staff for songs and such chorale song has evolved into folk songs through time. The song number begins next.</p> <p><b>Cheongsonggan</b> . . . . . This new folk song is derived from native folk songs of southern region by professional folk song singers. They newly arranged native folk songs into modern style around 1980s. The beauty of melody found only in folk songs of this region reflected in this song with dynamics.</p> <p><b>Bamsoon Jeoggu Baeksoon</b>. . . . . Baeksoon, a set of baesoon, is a entertaining song performed at parties or other festive occasions by professional folk singers. Fast and light song of bamsoon, following Bamsoon, sounds loud roaring songs are divided into two parts: one leads the main melody while the other responds by playing wahns. Ending melody underlines dramatic atmosphere.</p> </div>	<p><b>14<sup>th</sup> International Congress on Catalysis</b></p> <div data-bbox="785 1158 1008 1341"> <p><b>program 3</b></p> <h3>Cheongsonggol, Daegum Solo</h3> <p>Cheongsonggul is a solo daegum and a variation of the last piece of speck. Tapgeumjeog Daegum produces a distinctive beating sound with ability to change tones. Beautiful ornamentation of daegum with slow expression. The player plays music with one's own interpretation and feeling without being subject to rhythmic structure of fixed task time.</p> </div> <div data-bbox="785 1341 1008 1525"> <p><b>program 4</b></p> <h3>Sae-nal</h3> <p>Sae-nal is an instrumental music traditionally used in domestic rituals. Sae-nal is now becoming a performing art in separation of ritual context.</p> <p>The theme of rhythmic patterns, the number of movements and the key are prearranged to the performers and they play independently within that framework.</p> <p>It is played by jeog, daegum, haegum, seung, jeogjam, jeoggyeom, jing, and jinggo. Sae-nal is characterized by Jeoggyeom through which the Jeoggyeom performance of each musician.</p> </div> <div data-bbox="785 1525 1008 1704"> <p><b>program 5</b></p> <h3>Samsulnal</h3> <p>Samsulnal is the most popular "traditional" music genre both home and abroad. However, it began to rather short. It only began in 1979 in the first concert of the troupe named "Samsulnal". Samsulnal is the artistic version of the Sammul's band music taken out of outdoor performing space into a formal indoor stage.</p> <p>Samsulnal usually means to play with "daegum" and saenul.</p> </div> <div data-bbox="1008 1158 1203 1704"> <p><b>program 6</b></p> <h3>Sujeongnori (Monk's Dance)</h3> <p>This is one of the best-folk dance designated as Important Intangible National Cultural Asset No.27. Sujeongnori or the monk's dance is adapted from the Shoin dance, Buddhist moving dance.</p> <p>It consists of seven sections with different kinds of Jangjuk creating perfect beauty of Jeongjuk-Jang Jeon-in in the midst of rhythm.</p> <p><b>Congress Banquet</b></p> <p>Adapted to the four percussion instruments played in Sammul's band, Jeoggyeom, jeog, juk and jinggo. Jeoggyeom consists of a variety of Sammul's band rhythms which require immense amount of skill and technique to play. The music progresses from slow tempo to fast tempo with great tension and finally reaches breathtaking climax.</p> </div>

Fig. 3-17. Program of Banquet Performace



#### 4-4. Closing Ceremony

(1) Time: July 18 (Fri) 4:30~5 p.m., Place: Rm. 103

- Master: Prof. Park
- Congress Report: Prof. Moon
- Closing address: Prof. Bell
- Introduction of next IACS members: Prof. Li

(2) Comment

- As the number of participants was larger than expected one (600), many had to stand in the room.

#### 4-5. Excursion

(1) Time: July 16 (Wed) 1~6 p.m., Place: Folks Village (Yong-In)



Fig. 3-18. Excursion Coupon

- Number of participants: 850 (decreased from initially applied 1,200 due to rain)
- Planned outdoor performances, except wedding ceremony, were cancelled due to heavy rain.
- On-site dinner with traditional Korean food

(2) Comment

- A contingency plan should was not prepared.

## 5. Exhibition



Table 3-1. List of exhibitors			
Booth	Company	Country	Contact
1	CHEMETALL GmbH	Germany	Krause Thomas (thomas.krause@chemetall.com)
2	Milestone S&T Co., Ltd.	Korea	—
3	Elsevier	Netherlands	s.koning@elsevier.com
4	Reaction Engineering INC.	Korea	Anna Jo (reaction@reactioneng.co.kr)
5	ATI Korea Co., Ltd.	Korea	Ohk-Kyung Oh (okoh@atikorea.com)
6	Avantium Technologies	Netherlands	Annick Gielkens (Annick.gielkens@avantium.com)
7	BEL Japan Inc.	Japan	Joji Sonoda (j.sonoda@nippon-bel.co.jp)
8	Shinhan Scientific Co., Ltd.	Korea	Eun Jin Choi (ejchoi@shin-han.com)
9	MEL Chemicals	UK	Stephenson Hazel (Hazel.Stephenson@melchemicals.com)
10	SICAT SARL	France	Patrick Nguyen (Pat.nguyen1@free.fr)
11	Heesung Catalyst Corp.	Korea	Hyun Sik Han (hs.han@hscatalysts.com)
17	Computational Materials Design Aps	Denmark	Frank Abild-Pedersen (abild@computationalmaterialsdesign.com)
12	SK Energy	Korea	-
13	World Gold Council	UK	Richard Holliday (Richard.holliday@gold.org)
14	hte Aktiengesellschaft	Germany	Matthias Relss (matthias.reiss@hte-company.de)
15	Symyx Technologies, Inc.	USA	Laurie Winton (lwinton@symyx.com)
16	Protech-Korea Co., Ltd.	Korea	Seong-ki Yoon (info@protechkorea.co.kr)
18	Korea Material Scientific Co., Ltd.	Korea	Sung-Yong Chang
19	Process Integral Development Eng & Tech	Spain	Cosuelo Goberna Selma (cgoberna@icp.csic.es)
20	WILEY-BLACKWELL	Singapore	Sohee Yoon (syoon@wiley.com.sg)
21	Springer	Germany	Minicka Lothar (Lothar.Minicka@springer.com)
22	Altamira Instruments	USA	March Brookman (bmarch@altamirainstruments.com)
23	In-Situ Research Instruments	USA	Christina Wolf (sales@in-situresearch.com)
24	Young Lin Instrument Co., Ltd	Korea	Min Jung Shin (mjshin@younglin.com)

## 6. Young Scientist Award/Financial Support

### 6-1. Young Scientist Award

(1) The award was offered to 62 participants under the age of 35, who were compensated for their registration fee.

The total amounts of US\$19,520 for the award were split between the 14<sup>th</sup> ICC and the IACS.

(2) Fig. 18 shows the award certificate and Table 3-2 lists the winners.



Fig. 3-19. Certificate of Young Scientist Award

No.	Name	Country	Award/Refund (USD)	No. in Country
1	Betiana Carla Campo	Argentina	200	1
2	Akshat Tanksale	Australia	200	5
3	Shane Kendell	Australia	200	
4	Rebecca Lesic	Australia	250	
5	Siswati Lestari	Australia	250	
6	Vincent Lau	Australia	550	
7	Julien Schweicher	Belgium	200	3
8	Philippe Heynderickx	Belgium	200	
9	Bart De Moor	Belgium	250	
10	Zaman Sharif	Canada	200	1
11	Igor Busygin	Finland	500	1
12	Pascal Lignier	France	250	1
13	Marco Hartmann	Germany	200	4
14	Stefan Wuttke	Germany	200	
15	Armin Brandner	Germany	290	



16	Kerstin Lehnert	Germany	290	
17	Matteo Maestri	Italy	200	3
18	Ivan Rivalta	Italy	250	
19	Patricia Benito	Italy	250	
20	Ahmed Jalal Samed	Japan	200	6
21	Hiroshi Matsumori	Japan	200	
22	Mohammad Abul Hasnat	Japan	200	
23	Takafumi Arike	Japan	200	
24	Kohsuke Mori	Japan	500	
25	Leny Yulianti	Japan	500	
26	Bijal Bahuleyan Kottukkal	Korea	200	5
27	Jung Hun Kwak	Korea	200	
28	Mi So Kim	Korea	200	
29	Sang Jun Park	Korea	200	
30	Vinukrishnan Appukuttan	Korea	200	
31	Johan Den Breejen	Netherlands	250	1
32	Fengtao Fan	P.R.China	200	12
33	Jian Liu	P.R.China	200	
34	Weiping Deng	P.R.China	200	
35	Li Du	P.R.China	250	
36	Rongfang Wand	P.R.China	250	
37	Xiang Li	P.R.China	250	
38	Ke-Qiang Sun	P.R.China	500	
39	Lan Ma	P.R.China	500	
40	Xiaomin Yang	P.R.China	500	
41	Dan Zhao	P.R.China	550	
42	Xingang Li	P.R.China	550	
43	Zhiqiang Ma	P.R.China	550	
44	Rafal Pelka	Poland	290	5
45	Anastasia Shalagina	Russia	200	
46	Natalia Mezentseva	Russia	200	
47	Vladimir Zhivonitko	Russia	200	
48	Andrey Matveev	Russia	500	
49	Anna Lysova	Russia	550	1
50	Vadivukarasi Raju	Singapore	250	

51	Jiefang Zhu	Sweden	500	1
52	Dung Nguyen	Thailand	250	1
53	Vijay Kumar Kanuru	UK	200	3
54	Junwang Tang	UK	500	
55	Leanne McLaughlin	UK	250	
56	Elizabeth D'Addio	USA	250	7
57	Eranda Nikolla	USA	250	
58	Aditya Bhan	USA	500	
59	Justin Notestein	USA	500	
60	Robert Rioux	USA	500	
61	Kazuhiro Takanabe	USA	550	
62	Travis Conant	USA	600	
Total			19,520	62

## 6-2. Financial Support

(1) Financial support was offered to 14 participants who applied for it. The total amounts of US\$4,700 for the support were covered by the 14<sup>th</sup> ICC.

(2) Table 3-3 lists the recipients of the support.

Table 3-3. Recipients of Financial Support				
No.	Name	Country	Award/Refund (USD)	No. in Country
1	Laura Cornaglia	Argentina	500	1
2	Lakshmi Kantam	India	500	2
3	Venkat Raghava Chary Komandur	India	550	
4	Difei Han	P.R.China	200	7
5	Jian Liu	P.R.China	200	
6	Lu Wang	P.R.China	200	
7	Peng Liu	P.R.China	200	
8	Yang(Ying) Li	P.R.China	200	
9	Yanmei Zhang	P.R.China	200	
10	Dehua He	P.R.China	500	

11	Viorel Chihaia	Romania	500	1
12	Marina Shilina	Russia	550	1
13	Noelia Barrabes Rabanal	Spain	200	1
14	Fiona-Mairead McKenna	UK	200	1
Total			4,700	14

## 7. Hotel Reservation, Lunch Coupons

**7-1. Hotel:** Hotels recommended by the ICC were used by 549 participants.

### 7-2. Lunch Coupons

(1) All regular participants, except students, were provided with lunch coupons, amounting to 40,000 won (8,000 won x 5 days), to cover their lunch during the Congress period. The coupons could be used at pre-arranged restaurants in COEX mall. Out of 5,645 coupons offered to participants and staffs, 94% were used and recovered from the restaurants, which amounted to 42,497,440 won.



Fig. 3-20. Lunch Coupons

## (2) Comment

- After the first day of the Congress, participants quickly learned how to use the coupons. The plan was accepted as a successful one by many participants.

**Information for Lunch**

**B1 COEX Mall Map**

**COEX Map 1F**

IOC2008 Organizing Committee will offer lunch coupons for 5 days (priced 8,000 Korean Won per meal) and the coupons can be used like cash at the restaurants listed below. The coupons valued 8,000 Korean Won consisted of one 5,000 Korean Won and three 1,000 Korean Won. While participants need to pay extra for the food over 8,000 Korean Won, they can get the change for the lower price food.

The main venue for lunch is "Lake Food Court", where you can choose diverse international menu in a place and you also can go to small restaurants below for your lunch. On the first floor, there is a restaurant named O'kin's Brauhaus, where they accept our coupons. The restaurants for IOC2008 participants will have IOC2008 Logos at the entrance.

◆ Restaurants for Lunch

No.	Restaurant	Menu
1F	O'kin's Brauhaus	International
	Lake Food Court	International
T1	Jae Dong	Korean
T4	Oreute Tomate	Fusion Omurice
O4	Rumeli	Fusion Chinese
O2 & W4	Burger King	Burger
T3	Ms Ga	Japanese
C20	Paris Croissant	Bakery

Fig. 3-21. Instruction for using lunch coupons

## 8. Souvenirs/Gifts to Participants

(1) Congress Bag (1,700): 25,000 won/each (Fig. 3-22)

(2) Umbrella (1,700): 4,400 won/each (Fig. 3-23)

(3) Pen, Paper Pad (1,700): 2,000 won/set (Fig 3-24)

(4) Gifts to Lecturers (Fig. 3-25)

- Plenary/Award lecturers (7): Drawer box with pearl decoration, 55,000 won/each

- Keynote lecturers (13): Set for name cards and key-holders, 16,500 won/set

- Invited lecturers (24): Case for name cards, 9,900 won/each



Fig. 3-22. Congress Bag



Fig. 3-23. Umbrella

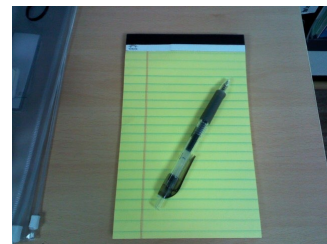


Fig. 3-24. Pen and Paper Pad



Fig. 3-25. Gifts to lecturers (from left PL, KL, IL)

## 9. Plaques

### 9-1. Plaques of Appreciation (Fig. 3-26)

- Plaques of appreciation, prepared either in Korean or English, were mailed to sponsors, including 11 Korean and 8 international companies.



Fig. 3-26. Plaque of Appreciation to Sponsors (Korean and English)

## 9-2. IACS Award Plaques

- (1) Heinz Heinemann Award (Fig. 3-27) to Prof. Dumesic.
- (2) International Catalysis Award (Fig. 3-28) to Prof. Hartwig.

**International Association  
of Catalysis Societies**  
**Heinz Heinemann Award in  
Catalyst Science and Technology**

Presented to  
**James A. Dumesic**

For ground-breaking  
contributions to the literature of  
catalytic chemistry and processing,  
laying the foundations for transforming  
renewable biomaterials to hydrogen,  
chemicals and liquid fuels

July 2008

## 9-3. Plaque of Appreciation

- A special plaque of appreciation (Fig. 3-29) was offered to Prof. Breysse.

Fig. 3-27. Heinemann Award

**International Association  
of Catalysis Societies**  
**International Catalysis Award**

Presented to  
**John F. Hartwig**

For the discovery and development  
of new catalytic processes commonly used to  
synthesize pharmaceutical candidates and  
for the deep mechanistic insights into  
these new processes

July 2008

Fig. 3-28. International Catalysis Award

**International Association  
of Catalysis Societies**  
**14th International Congress  
on Catalysis**

**Plaque of Appreciation**

Presented to  
**Michèle Breysse**

For the efforts and contributions  
as a chairperson of the 13th International  
Congress on Catalysis in Paris, 2004

July 2008

Fig. 3-29. Plaque of Appreciation to Prof. Breysse

## **10. Photos and Videos**

- Photos taken during the Congress period were posted on the Congress website, <http://www.icc2008korea.com/photolist.asp>, for downloading by visitors. The video of Opening Ceremony was sent to related people.



## IV. Finance

### 1. Income : ₩1,036,354,025

#### 1-1. Registration

##### (1) Number of participants

Description		Number
Registration	Participants	913
	Students	395
	Retired	23
	Free	78
	One-day (Standard)	40
	One-day (Student)	38
	Accompanying	60
	Sub-total	1,547
Banquet		552

##### (2) Income from registration and banquet

Description	Amount (₩)
Early registration	565,669,629
Banquet	46,155,287
Sub-total	611,824,916
Others (Registration and Banquet)	14,456,214
Total	626,281,130

## 1-2. Sponsors and Supporting Organizations

- A pamphlet to invite sponsorship was distributed among potential sponsors together with a letter of invitation cosigned by Profs. Bell and Moon. Sponsors were grouped into three according to the size of their donation.

Level	Fee	Benefit/Complimentary Items Included
Patrons	> USD 15,000	- Full registration for two delegates (including tickets to the Welcome Reception and Banquet) - Company name and logo on ICC2008 Web Page (linked to the company website) - A half-page ad in the ICC2008 Final Program
Sponsors	USD 15,000 -USD 5,000	- Full registration for a delegate (including tickets to the Welcome Reception and Banquet) - Company name and logo on ICC2008 Web Page (linked to the company website) - A quarter-page ad in the ICC2008 Final Program
Donors	< USD 5,000	- Full registration for a delegate (including tickets to the Welcome Reception and Banquet) - Company name and logo on ICC2008 Web Page (linked to the company website) - A quarter-page ad in the ICC2008 Final Program

### (1) Industrial sponsors (International)

No.	Company	Amount (₩)
1	General Motors Corp.	9,141,981
2	Haldor Topsoe A/S	9,610,340
3	BASF Catalysts	7,347,750
4	Süd-Chemie	5,574,900
5	BP International	4,680,807
6	Institut Français du Pétrole	3,095,700
7	Exxon Research and Engineering Company (EMRE)	2,408,175
8	LUMMUS Technology	464,455
	Sub-total	42,324,108

(2) Industrial sponsors (Korean)

No.	Company	Amount (1,000 ₩)
1	SK Energy	50,000
2	HeesungCatalysts	30,000
3	GS Caltex	20,000
4	Hanwha	20,000
5	POSCO	20,000
6	Hyundai Motors	20,000
7	Hyosung Corporation	10,000
8	Toray Saehan Inc.	10,000
9	Samsung Total	10,000
10	LG Chem	9,500
11	KOCAT	5,000
12	Dongjin Semichem Co., Ltd.	3,300
	Sub-total	207,800

(3) Supporting organizations (Korean)

No.	Organization	Amount (1,000 ₩)
1	Korea Research Foundation	40,000
2	Seoul Tourism Organization	20,000
3	Korean Federation of Science and Technology Societies	10,000
4	Korea Tourism Organization	9,000
5	KOSEF	7,000
6	Seoul CVB	5,000
	Sub-total	91,000

### 1-3. Exhibitors

	Exhibition Number	Number of booths	Booth number	Company	Amount (₩)
1	EICC08-0001	1	9	MEL Chemicals	2,992,500
2	EICC08-0002	1	13	World Gold Council	2,766,680
3	EICC08-0003	1	1	CHEMETALL GmbH	2,766,680
4	EICC08-0004	1	8	Shinhan Scientific Co., Ltd.	3,300,000
5	EICC08-0005	1	10	SICAT SARL	2,798,250
6	EICC08-0006	1	7	BEL Japan Inc.	2,714,670
7	EICC08-0007	1	6	Avantium Technologies	2,972,100
8	EICC08-0008	1	19	Process Integral Development Eng & Tech (PID Eng&Tech)	3,004,056
9	EICC08-0009	1	5	ATI Korea Co., Ltd.	3,300,000
10	EICC08-0010	1	4	REACTION ENGINEERING INC.	2,892,000
11	EICC08-0011	1	18	Korea Material Scientific Co., Ltd.	3,300,000
12	EICC08-0012	1	12	Computational Materials Design Aps	2,919,000
13	EICC08-0013	1	16	Protech-Korea Co., Ltd.	3,300,000
14	EICC08-0014	2	15	Symyx Technologies, Inc.	5,805,252
15	EICC08-0015	1	14	HTE Aktiengesellschaft	2,933,400
16	EICC08-0016	1	22	Altamira Instruments	2,870,812
17	EICC08-0018	1	23	In-Situ Research Instruments	2,889,810
18	EICC08-0019	1	3	Elsevier	2,889,810
19	Sponsor	2	12	SK Energy	
20	EICC08-0020	1	21	Springer	2,889,810
21	EICC08-0021	1	20	WILEY-BLACKWELL	3,043,957
22	EICC08-0022	1	24	Young Lin Instrument Co., Ltd	3,300,000
23	EICC08-0024	1	2	Milestone S&T Co., Ltd.	3,300,000
24	Sponsor	1	11	Heesung Catalyst	
	--TOTAL--	26			68,948,787

## 2. Expenses: ₩1,036,354, 025

Item	Amount (₩)
Performance	11,250,000
Souvenir and Incidental expense	57,279,900
Honorarium and Room charge	81,455,990
Lunch	42,497,440
Banner and printing	14,727,834
COEX rent	177,095,123
Excursion	39,900,000
Coffee and Booth	268,090,608
Levy to IACS*	31,008,858
Stationery and communication service fees	8,774,520
Homepage	8,070,000
Circular	6,411,300
Han Jin Convention	190,200,000
Meeting expenses of organizing committee	9,848,200
Cost of labor (secretary)	42,000,000
Cost of labor (Assistants)	17,970,000
Reserve fund for 14 <sup>th</sup> ICC and traveling expenses	1,431,952
Overhead to KICChE	28,342,300
<b>Total</b>	<b>1,036,354,025</b>

### Net amounts due (14th ICC→ IACS)

(\*)

Levy (14th ICC→ IACS)					
Item	Details	Unit Price	Quantity	Sub Total	Total
10% of ①Net registration in	564,723,981 won × 10%	56,472,398	1	56,472,398	<b>56,472,398</b>

① Net registration Income (564,723,981 won) = ②Total registration income (566,832,713 won) - Total refund due (2,108,732 won)

② Total registration income (566,832,713 won) = 554,282,713 won + (\$12,550 × 1,000 won/\$); Total refund due (2,108,732 won).

Details are given in ICC income.

IACS Expenses					
Item	Details	Unit Price	Quantity	Sub Total	Total
IACS Meeting	Set Menu	77,000	45	3,465,000	3,687,750
	Coffee	4,950	45	222,750	
Invited	Hotel Expense for Dr. Dumesic	1,425,120	1	1,425,120	7,953,540
	Hotel Expense for Dr. Hartwig	632,700	1	632,700	
	Reimbursement for Air Ticket (Dumesic)	1,770,570	1	1,770,570	
	Reimbursement for Air Ticket (Hartwig)	4,125,150	1	4,125,150	
③Young Scientist Award (YA). List of 80 awardees is given in a separate file.				9,862,250	9,862,250
④YA Banquet Invitation		90,000	40	3,600,000	3,600,000
Award/Appreciation Plaque (Dumesic, Hartwig, Breyse)		120,000	3	360,000	360,000
				<b>25,463,540</b>	<b>25,463,540</b>

③Total amounts of YA registration refunded = \$19,150 × 1,030 won/\$. The amounts were equally split between ICC and IACS.

④YA banquet expenses were equally split between ICC and IACS.

Net amounts due (14th ICC→ IACS)		
Levy (56,472,398 won) - IACS expenses (25,463,540 won)		<b>31,008,858</b>