

**KHUPO 5th International Proteomics Conference**

**AOHUPO Workshop/Symposium**

***"A New Roadmap for the Human Proteome Research"***

**April 27-29, 2005**

**New Millennium Building, Konkuk University, Seoul, Korea**

Organized by

Korean Human Proteome Organization (KHUPO)

Sponsored by

Ministry of Health and Welfare, Ministry of Commerce, Industry and Energy, Korea Science and Engineering Foundation, Korea Research Foundation, Bio Molecular Informatics Center, Korea Protein Chip Society, Yonsei Proteome Research Center, Biomedical Proteome Research Center, Dong-il SHIMADZU Corp., KDR Biotech Co., LTD, GreenMate Biotech Corp., Applied Biosystems, Bio Rad Korea Ltd, Kook Soon Dang, Dong Suh Foods Co., SCINCO Co., Ltd.

Time	April 28		April 29	
	Hall A	Hall B	Hall A	Hall B
8:00	Registration & Poster Set-up (8:00-8:15)		Registration & Poster Set-up (8:00-8:15)	
	Introduction of New Technique & Products for Proteomics Reserch I (8:15-9:15)		Introduction of New Technique & Products for Proteomics Reserch II (8:15-9:15)	
9:00	Opening Ceremony (9:20-9:30)		Symp 5 (9:20-10:20)	Symp 6 (9:20-10:20)
	Symp 1 (9:35-10:35)			
10:00	PL -1 (10:40-11:20)		Poster & Exhibition III Coffee Break (10:20-11:30)	
	Poster & Exhibition I Coffee Break (11:20-12:20)			
11:00	KHUPO General Assembly Meeting (11:30-11:50)		PL-6 (11:50-12:30)	
	PL -2 (12:20-13:00)			
12:00	Workshop 1 (13:00-14:00)		Workshop 2 (12:30-13:40)	
13:00	Symp 3 (14:00-15:00)		Symp 4 (14:00-15:00)	
14:00	Symp 7 (14:00-15:00)		Symp 8 (14:00-15:00)	
	PL-3 (15:05-15:45)		PL-7 (15:05-15:45)	
15:00	Poster & Exhibition II Coffee Break (15:45-16:45)		Coffee Break (15:45-16:00)	
	Symp 9 (16:00-17:00)		Symp 10 (16:00-17:00)	
16:00	PL-4 (16:50-17:30)		PL-8 (17:05-17:45)	
	PL-5 (17:30-18:10)			
17:00	Special Announcement (17:50-18:00)		Young Scientist Award & Closing Remarks (18:00-18:30)	
	Welcome Reception (18:30-20:00)			
18:00				

**Wednesday, April 27, 2005**

## **AOHUPO Workshop/Symposium**

*"AOHUPO Membrane Proteome Initiatives"*

Organizing Chair: Young-Ki Paik, *Yonsei Proteome Research Center, Seoul, Korea*

08:30-09:00     **Registration & Coffee**

09:00-09:10     **Opening Remarks**

Organizing Chair's Welcome Note: Young-Ki Paik,  
AOHUPO President's Remarks: Richard J. Simpson,

**Session I            HCC-Related Membrane Proteins\***

**Co-Chairs: Richard J. Simpson and Kazuyuki Nakamura**

09:10-09:40     Membrane proteome of human liver tissue

(SL-1)            Fuchu He, Director of HLPP

*Beijing Institute of Radiation Medicine, Beijing, P. R. China*

09:40-10:10     Fractionation of intact membrane proteins with a high recovery macroporous

(SL-2)            reversed phase column and analysis of membrane protein digest with HPLC Chip-MS

Rudolf Grimm

*Agilent Company, USA*

10:10-10:40     Exploring membrane proteins for cancer

(SL-3)            Ravi Sirdeshmukh

*Centre for Cellular and Molecular Biology, India*

10:40-11:00     Coffee Break

**Session II            Disease Membrane Proteins**

**Co-Chairs: Fuchu He and Nikhat Ahmed Siddiqui**

11:00-11:30     Assessment of the cationic colloidal silica method of plasma membrane enrichment  
(SL-4)            for use in proteomic-based discovery of cell surface biomarkers.

Richard J. Simpson, Vice President of HUPO and President of AOHUPO

*Ludwig Institute for Cancer Research Melbourne Australia*

11:30-12:00 Non-gel based 2D (PF2D) analysis of highly alkaline membrane proteins  
(SL-5) Young-Ki Paik, Director of Korea Human Proteome Project  
*Yonsei Proteome Research Center/BPRC, Seoul, Korea*

12:00-12:30 Proteome analysis on heat stress signal transduction in Jurkat cells–lipid raft to  
(SL-6) cytosol and nucleus-  
Kazuyuki Nakamura, Co-Director of HGPI  
*Yamaguchi University School of Medicine, Japan*

12:30-14:00 Lunch(AOHUPO Council meeting)

**Session III. Plant and Microbial Membrane Proteome**

**Co-Chairs: John Bennett, Ravi Sirdeshmukh and Jinuson Svasti**

14:00-14:30 Membrane proteomics - providing answers to key questions in plant biology  
(SL-7) John Bennett  
*International Rice Research Institute, Phillippines*

14:30-15:00 Differential analysis of rice plasma membrane proteome in response to salt stress  
(SL-8) Gh. Hosseini Salekdeh  
*Research Institute of Iran (ABRII), Iran*

15:00-15:30 Methods for bacterial membrane proteins  
(SL-9) Bill Jordan  
*Victoria Univ. New Zealand*

15:30-15:50 Coffee Break

15:50-16:20 Membrane proteins in infectious diseases: interactions of viral envelop proteins  
(SL-10) with cell membrane proteins  
Nikhath Ahmed Siddiqui  
*University of Karachi, Pakistan*

**Session IV Round Table Discussion**

**Co-Chairs: Young-Ki Paik, Richard Simpson and Bill Jordan**

16:30-18:30 Round Table Discussion

“Membrane Proteome Initiative by AOHUPO”

**Discussion Topics**

1. How can we launch this Membrane Proteome Initiative
2. Strategy, Management, Leadership (Coordinator)
3. Funds, Sponsorships, Industrial Supports
4. Database format, Collaboration with EBI
5. Harmonization of this project with the Ongoing HUPO Projects
6. Conclusions and Action Plans

**Panelists**

John Bennett, *International Rice Research, Institute, Phillipines*  
Phan Van Chi, *Vietnamese Academy of Science & Technology, Vietnam*  
Fuchu He, *China National Center of Biomedical Analysis, China*  
Rudolf Grimm, *Agilent Company, USA*  
Bill Jordan, *Victoria Univ., New Zealand*  
Kil Lyong Kim, *Sungkyunkwan University, Suwon, Korea*  
Kazuyuki Nakamura, *Yamaguchi University School of Medicine, Japan*  
Young-Ki Paik, *Yonsei Proteome Research Center, Korea*  
Gh. Hosseini Salekdeh, *Research Institute of Iran (ABRII), Iran*  
Nikhat Ahmed Siddiqui, *University of Karachi, Pakistan*  
Richard J. Simpson, *Ludwig Institute for Cancer Research Melbourne, Australia*  
Ravi Sirdeshmukh, *Centre for Cellular and Molecular Biology, India*  
Jisnuson Svasti, *Mahidol University, Thailand*

18:30            End

\*All oral presentation consists of 20 min talk and 10 min discussion.

# Thursday, April 28, 2005

## *"A New Roadmap for the Human Proteome Research"*

**Topics: Mass Spectrometry, ToxicProteomics, Quantitative Proteomics, Subproteome Research, GlycoProteomics, Plant Proteomics, 2DE Basics,**

08:00-08:15 Registration & Poster Set-up/display

08:15-09:15 New Techniques and Products for Proteomics Research I (HALL-A)  
"Introduction of new proteomics tools & instruments" by Major Proteomics Companies

### **09:20-09:30 OPENING CEREMONY**

- Opening Remark by Prof. Young-Ki Paik, President of KHUPO
- Special Congratulatory Remarks  
Dr. Kil Saeng Chung, President of Konkuk University.
- Welcoming Remarks  
Dr. Samir Hanash, Ex-President of HUPO, *Fred Hutchinson Cancer Research Center, U.S.A*

### **Parallel Session A (HALL-A)**

#### **Symposium 1 Mass Spectrometry**

Chair & Organizer: Jong-Shin Yoo, *Korea Basic Science Institute (KBSI)*

09:35-09:55 (SY1-1) The use of liquid chromatography coupled with electrospray mass spectrometry for the monitoring of therapeutic protein treatment in human serum

James Langridg, *Waters Corporation, U.K.*

09:55-10:15 (SY1-2) Unambiguous identification of sites of phosphorylation in phosphopeptides having multiple potential sites of phosphorylation

Kwang Pyo Kim, *KonKuk University*

10:15-10:35 (SY1-3) Global Analysis of Korean Plasma Proteome Using LT/FT/MS and A Protein Identification Strategy for Free False Positive Assignment

Jin Young Kim, *KBSI*

### **Parallel Session B (HALL-B)**

#### **Symposium 2 ToxicProteomics**

Chair & Organizer: Donggeun Sul, *Korea Univ.*

- 09:35-09:55      Genomic and proteomic analysis for identification of caffeine-induced targets in  
(SY2-1)      *Caenorhabditis elegans*  
Yhong-Hee Shim, *KonKuk Univ.*
- 09:55-10:15      Evaluation of genes and plasma protein expression in workers exposed to polycyclic  
(SY2-2)      aromatic hydrocarbons or 2,3,7,8-tetrachlorodibenzo-p-dioxins  
Meyoung-Kon Kim, *Korea Univ.*
- 10:15-10:35      Evaluation of toxicoproteomic biomarkers in plasma proteins of rats exposed to  
(SY2-3)      formaldehyde  
Donggeun Sul, *Korea Univ.*
- Plenary Lecture 1      Quantitative Proteomics (HALL-A)**  
Chair: Myeong-Hee Yu, *The Functional Proteomics Center, KIST*
- 10:40-11:20      Quantitative proteomics : current status, challenges and new directions  
(PL-1)      Ruedi H. Aebersold, *Institute for Molecular Systems Biology, ETH Zurich, Switzerland*
- 11:20-12:20      POSTER and EXHIBITION Session I**  
(Visit Exhibition Booths To Receive Stamps for Entering the Special Gifts Competition)
- Plenary Lecture 2      Subproteome Research (HALL-A)**  
Chair: Young-Ki Paik, *Yonsei Univ.*
- 12:20-13:00      Proteomic characterization of the murine cardiac 26S proteasome  
(PL-2)      Peipei Ping, *UCLA School of Medicine, U.S.A.*
- 13:00-14:00      **Luncheon Proteomics Workshop 1 (with Lunch & Beverage)**  
(WS-1)      Proteomics with protoArray(TM) : applications of functional protein microarrays  
Paul F. Predki, *Invitrogen, U.S.A.*
- Parallel Session A (HALL-A)**
- Symposium 3      GlycoProteomics**  
Chair & Organizer: Jin Won Cho, *Yonsei Univ.*
- 14:00-14:20      Oligosaccharide analysis of glycoproteins  
(SY3-1)      Soohyun Kim, *Glycomics Team, KBSI*
- 14:20-14:40      An N-acetylglucosaminyl transferase-V-catalyzed aberration in the N-glycan on  
(SY3-2)      tissue inhibitor of metalloproteinase-1 reinforces the invasive/metastatic potential of  
colon cancer cell.  
Jeong Heon Ko, *KRIBB*
- 14:40-15:00      Identification of hyperglycemia-induced O-GlcNAc modified proteins in rat

(SY3-3) pancreatic  $\beta$  cells  
Jin Won Cho, *Yonsei Univ.*

**Parallel Session B (HALL-B)**

**Symposium 4 Plant Proteomics**

Chair & Organizer: Dong-Bin Lim, *Soongsil Univ.*

14:00-14:20 2-DE based plant proteome analysis for rice seed germination and seedling  
(SY4-1) development

Kyu Young Kang, *Gyeongsang National Univ.*

14:20-14:40 Analysis of the secretome of cultured arabidopsis cells

(SY4-2) Ohkmae K. Park, *Korea Univ.*

14:40-15:00 Proteomic approach for protein phosphorylation in plants

(SY4-3) In-Soo Kim, *Kyungpook National Univ.*

**Plenary Lecture 3 2DE Basics (HALL-A)**

Chair: Matthias Mann, *Protein Interaction Laboratory, University of Southern Denmark, Odense, Denmark*

15:05-15:45 Today's 2-D electrophoresis technology

(PL-3) Angelika Gorg, *Technical University of Munich, Germany*

**15:45-16:45 POSTER and EXHIBITION Session II**

(Visit Exhibition Booths to Receive Stamps for Entering the Special Gifts Competition)

**Plenary Lecture 4 Cancer Proteomics-1 (HALL-A)**

Chair: Richard J. Simpson, *Ludwig Institute for Cancer Research, Australia*

16:50-17:30 Proteomic global profiling for cancer biomarker discovery

(PL-4) Samir Hanash, *Fred Hutchinson Cancer Research Center, U.S.A.*

**Plenary Lecture 5 Cellular Signaling Proteomics (HALL-A)**

Chair: Angelika Gorg, *Technical University of Munich, Germany*

17:30-18:10 Signaling and organellar proteomics using quantitative proteomics

(PL-5) Matthias Mann, *Protein Interaction Laboratory, University of Southern Denmark, Odense, Denmark*

**18:30-21:00 WELCOME RECEPTION**

**New Millenium Hall Restaurant(1'st fl.)**

# Friday, April 29, 2005

## *"A New Roadmap for the Human Proteome Research"*

**Topics: Metabolomics/Proteomics, Structural Genomics/Proteomics, Cancer Proteomics-1, Disease Proteomics, Protein Chip, New Peptide Microarray, HUPO Antibody Initiatives**

08:00-08:15 Registration & Poster Set-up/display

08:15-09:15 New Techniques and Products for Proteomics Research II (HALL-A)  
"Introduction of new proteomics tools & instruments" by Major Proteomics Companies

### **Parallel Session A (HALL-A)**

#### **Symposium 5 Metabolomics/Proteomics (HALL-A)**

Chair & Organizer : Bong Chul Chung, *Bioanalysis and Biotransformation Research Center, KIST*

09:20-09:40 Changes in the metabolome of plant cell suspension cultures under stress  
(SY5-1) Jang Ryol Liu, *KRIBB*

09:40-10:00 A new functional protein chip for in vitro metabolic engineering  
(SY5-2) Gyoo Yeol Jung, *Pohang Univ. of Science and Technology*

10:00-10:20 Metabolic profiling applications in male-pattern baldness  
(SY5-3) Bong Chul Chung, *Bioanalysis and Biotransformation Research Center, KIST*

### **Parallel Session B (HALL-B)**

#### **Symposium 6 Structural Genomics/Proteomics (HALL-B)**

Chair & Organizer : Yoongho Lim, *Bio/Molecular Informatics Center, Konkuk Univ.*

09:20-09:40 NMR spin relaxation studies for characterizing motions in protein  
(SY6-1) Yangmee Kim, *Konkuk Univ.*

09:40-10:00 Functional genomics of O-methyltransferases: Is the sequence homology among enzymes valid for predictions on the substrates?  
(SY6-2) Joong-Hoon Ahn, *Konkuk Univ.*

10:00-10:20 Approaches for molecular modeling and NMR in structural genomics  
(SY6-3) Yoongho Lim, *Konkuk Univ.*

**10:20-11:30 POSTER and EXHIBITION Session III**

(Visit Exhibition Booths To Receive Stamps for Entering the Special Gifts Competition)

**11:30-11:50 KHUPO General Assembly Meeting (HALL-A)**

**Plenary Lecture 6 Cancer Proteomics-2 (HALL-A)**

Chair: Yu Sam Kim, *Yonsei Univ.*

11:50-12:30 Proteomic analysis of colorectal cancer: strategies for novel biomarker discovery  
(PL-6) Richard J. Simpson, *Ludwig Institute for Cancer Research, Australia*

12:30-13:40 Luncheon Proteomics Workshop 2 (with Lunch & Beverage) (HALL-A)  
(WS-2) Data Handling of MS and MS/MS for Journal Publication

- San Yun Cho, *YPRC (08:15-08:40)*
- John Chakel, *Agilent, USA (8:45-09:15)*

**Parallel Session A (HALL-A)**

**Symposium 7 Disease Proteomics 1 (HALL-A)**

Chairs & Organizer: Choon-Sik Park, *Soonchunhyang Univ.*

14:00-14:20 Quantitative profiling of plasma peptides in asthmatic mice using liquid  
(SY7-1) chromatography and mass spectrometry  
KyuBum Kwack, *Genome Research Center for Reproductive Medicine and Infertility*

14:20-14:40 2D analysis of human amniotic fluid: Its application to down syndrome  
(SY7-2) Suman Lee, *Genome Research Center for Reproductive Medicine and Infertility*

14:40-15:00 Clinical proteomics : Applications for cancer biomarker discovery and detection  
(SY7-3) Mi-Young Han, *GreenCross Reference Lab*

**Parallel Session B (HALL-B)**

**Symposium 8 Protein Chip 1 (HALL-B)**

Chairs: Bong Hyun Chung, *KRIBB*

14:00-14:20 Nanoarrays of biomolecules by surfactant activated dip-pen nanolithography  
(SY8-1) Hyungil Jung, *Yonsei Univ.*

14:20-14:40 Real-time dual color laser-induced total internal reflection fluorescence  
(SY8-2) Microscopy for nano protein chip applications  
Seong Ho Kang, *Chonbuk Nat'l Univ.*

14:40-15:00 Atomic force microscopy on membrane modeling using artificial membrane and  
(SY8-3) mouse sperm cell  
Sang-Joon Cho, *KAIST*

### **Plenary Lecture 7 New Peptide Microarray (HALL-A)**

Chair: Yoon-Sik Lee, *Seoul Nat'l Univ*

- 15:05-15:45  
(PL-7) Designed peptide microarrays for protein detection and characterization  
Hisakazu Mihara, *Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Japan*

### **15:45-16:00 Coffee Break**

### **Parallel Session A (HALL-A)**

#### **Symposium 9 Disease Proteomics 2**

Chairs & Organizer : Ki-Baik Hahm, *Ajou Univ.*

- 16:00-16:20  
(SY9-1) Novel mechanism of angiogenesis by bFGF gene transfer ; angiogenic factors secreted from bFGF-transfected cells  
Ji Hyung Chung, *Cardiovascular Genome Research Center, Yonsei Univ.*
- 16:20-16:40  
(SY9-2) Proteomic analysis of colitis-associated colon carcinogenesis in a mouse model  
Marie Yeo, *Genome Research Center for Gastroenterology, Ajou Univ.*
- 16:40-17:00  
(SY9-3) HUPO human brain proteome project pilot study - multidimensional separations coupled with MS  
Young Mok Park, *Korea Basic Science Institute*

### **Parallel Session B (HALL-B)**

#### **Symposium 10 Protein Chip 2**

Chairs: In Jae Shin, *Yonsei Univ.*

- 16:00-16:20  
(SY10-1) An Immuno-analytical Lab-on-a-chip for point-of-care testing  
Se-Hwan Paek, *Korea Univ.*
- 16:20-16:40  
(SY10-2) Integrated fluorescence detection chip using MEMS technology  
Eun Gyeong Yang, *KIST*
- 16:40-17:00  
(SY10-3) Biochip applications of surface amine groups formed by PECVD  
Donggeun Jung, *Sungkyunkwan Univ.*

### **Plenary Lecture 8 HUPO Antibody Initiatives (HALL-A)**

Chair: Hun-Taeg Chung, *Wonkwang Univ.*

- 17:05-17:45  
(PL-8) Antibody-based tissue proteomics to study the humane proteome  
Mathias Uhlen, *Royal Inst of Technology KTH , Sweden*

### **17:50-18:00 Special Announcement for 2005 HUPO Congress in Munich**

### **18:00-18:30 Young Scientist Awards, and Closing Remarks**

\*This will be subject to change without notice.