

DICP Symposium (XIX) on Frontier of Bioanalytical Techniques:

Challenge of Metabonomics and other –omics

November 29–30, 2008

Conference Hall of DICP Bio-Tech Building

Sponsored by:

Dalian Institute of Chemical Physics, Chinese Academy of Sciences
Agilent Technologies Co., Ltd

—Program—

Whole day of Nov. 28 (Friday)

Arrival and hotel check-in
18:30 Reception banquet in Golf Hotel

Morning of Nov. 29 (Saturday)

08:30-08:45 Opening Ceremony Presided by Prof. Guowang Xu
Opening Address: Director of DICP
Prof. Peichang Lu
Prof. Yukui Zhang

Section I

Presided by Prof. Wayne R. Matson

08:45-09:15 Novel liquid phase separation techniques for proteome study **1**
Yukui Zhang
Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China

09:15-09:45 Potential and limitations of comprehensive two-dimensional column liquid chromatography **4**
Peter Schoenmakers
University of Amsterdam, The Netherlands

09:45-10:15 Recent developments in shotgun lipidomics: An update **7**
Xianlin Han
Washington University School of Medicine, USA

10:15-10:30 Photo
10:30-10:45 Coffee Break

Section II

Presided by Prof. Dr. Xianlin Han

| | | |
|-------------|--|-----------|
| 10:45-11:30 | A strategy for increasing metabolome coverage using a single chromatographic method with multi-modal LC/MS detection | 10 |
| | Theodore R. Sana <i>Agilent Technologies, USA</i> | |
| 11:30-12:00 | Development of quantitative metabonomic platform(QMP) and its application in the study of diabetic nephropathy | 12 |
| | Guoan Luo <i>Tsinghua University, China</i> | |
| 12:00 | Lunch | |

Afternoon of Nov. 29 (Saturday)

Section III Presided by Dr. Rainer Lehmann and Prof. Wayne R. Matson

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|-------------|--|-----------|
| 13:30-14:00 | Development of multi-dimensional chromatography and magnetic nanoparticle techniques for proteomic analysis | 15 |
| | Xiangmin Zhang <i>Fudan University, China</i> | |
| 14:00-14:30 | A process of using liquid chromatography with electrochemical array detection and mass spectrometry for biomarker discovery in neurological diseases | 18 |
| | Wayne R. Matson <i>Department of Systems Biochemistry Bedford VAMC, USA</i> | |
| 14:30-15:00 | An integrated strategy for metabonomics studies of human diseases: from specimen to knowledge | 21 |
| | Guowang Xu <i>Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China</i> | |
| 15:00-15:30 | Metabolomic analysis of the pre-diabetic state | 24 |
| | Rainer Lehmann <i>University Hospital, Tuebingen, Germany</i> | |
| 15:30-15:50 | Coffee Break | |

Section IV Presided by Prof. Xijun Wang and Prof. Aiping Lu

| | | |
|-------------|---|-----------|
| 15:50-16:20 | Lipidomics, novel tools and applications | 26 |
| | Guanghou Shui <i>National University of Singapore, Singapore</i> | |
| 16:20-16:50 | Metabonomics based biomarker discovery for the therapeutics of Chinese medical formula with LC-MS | 29 |
| | Xijun Wang <i>Heilongjiang University of Chinese Medicine, China</i> | |

| | | |
|-------------|--|-----------|
| 16:50-17:20 | Systems Biology Guided By Traditional Chinese Medicine Reveals New Diagnostic Markers for Rheumatoid Arthritis | 32 |
| | Herman van Wietmarschen <i>Leiden University, The Netherlands</i> | |
| 17:20-17:50 | From pattern differentiation based on symptoms in traditional Chinese medicine to improve effectiveness in disease treatment | 35 |
| | Aiping Lu <i>China Academy of Chinese Medical Sciences, China</i> | |
| 18:00 | Invited dinner by Agilent Technologies Co., Ltd | |

Morning of Nov. 30 (Sunday)

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|-------------------|--|-----------|
| Section V | Presided by P. Schoenmakers | |
| 8:30-9:00 | Performance of HPLC columns packed with Very Fine Particles. Consequences of the heat effect | 38 |
| | Georges Guiochon <i>University of Tennessee, USA</i> | |
| 9:00-9:30 | New materials and technologies for liquid-phase enantioseparations | 41 |
| | Bezhan Chankvetadze <i>Tbilisi State University, USA</i> | |
| 9:30-10:00 | Electron Ionization in LC-MS: State of the Art and New Applications | 45 |
| | Achille Cappiello <i>Universita` di Urbino "Carlo Bo", Italy</i> | |
| 10:00-10:20 | Coffee Break | |
| Section VI | Presided by Prof. Achille Cappiello and Prof. Yi Chen | |
| 10:20-10:50 | A universal ionisation label for the APLI-(TOF)MS analysis of small molecules and polymers | 48 |
| | Oliver J. Schmitz <i>University of Wuppertal, Germany</i> | |
| 10:50-11:20 | Lipid analysis and tissue imaging using DESI-MS | 51 |
| | Zheng Ouyang <i>Purdue University, USA</i> | |
| 11:20-11:50 | Matrix-assisted mass up-movement for LDI-TOF MS of small molecules | 54 |
| | Yi Chen <i>Institute of Chemistry, Chinese Academy of Sciences, China</i> | |

12:00 Lunch

Afternoon of Nov. 30 (Sunday)

Section VII **Presided by Prof. Guoan Luo and Prof. Xinmiao Liang**

13:30-14:00 Prediction of gene function involved in flavonoid biosynthetic mutant lines of *Arabidopsis thaliana* (L.) by metabolite fingerprinting **56**

Jang Ryol Liu

Korea Research Institute of Bioscience and Biotechnology, Korea

14:00-14:30 Herbalome **58**

Xinmiao Liang

Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China

14:30-15:00 HPLC and hyphenated methods for analysis and screening of bioactive components in Chinese herbal medicines **60**

Ping Li

China Pharmaceutical University, China

15:00-15:20 Coffee Break

Section VIII **Presided by Prof. Jang Ryol Liu and Prof. Ping Li**

15:20-15:50 Identification of Chinese Medicine metabolites and high-throughput multi-component pharmacokinetic studies using HPLC-MS-MS **63**

Hongbin Xiao

Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China

15:50-16:20 Fast plasma lipid analysis by nanospray chip-based mass spectrometry **66**

Heng Wei

TNO Quality of life, The Netherlands

16:20-16:30 Closing Ceremony: Presided by Prof. Guowang Xu

Closing Address: Prof. P. Schoenmakers

Prof. Xianlin Han

16:30-17:30 Lab Tour

18:00 Dinner