

**The 18th
Beijing Conference And Exhibition
On Instrumental Analysis**

**第十八届北京分析测试
学术报告会暨展览会**

BCEIA 2019



CONFERENCE PROGRAM

Date: 23-26 October 2019

Location: China National Convention Center Beijing

**Sponsored by: The China Association for Instrumental
Analysis**

**Approved by: Ministry of Commerce of the People's
Republic of China**

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Foreword

The 18th Beijing Conference and Exhibition on Instrumental Analysis (BCEIA 2019) is scheduled to be held from 23th to 26th of October, 2019 at the National Convention Center, Beijing China. With the vision of “Analytical Science Creates Future”, BCEIA 2019 will continue to organize academic conferences, forums and exhibition around the theme of “Moving towards a green future”. The Chairman of the conference is Mr. Jinpei CHENG, Member of Chinese Academy of Sciences and former Vice-Minister of the Ministry of Science and Technology of the People’s Republic of China. The Chairman of the Academic Committee is Mr. Hongyuan CHEN, Member of Chinese Academy of Sciences and professor of Nanjing University.

Professor Catherine E Costello from Boston University, Professor Norman J. Dovichi from University of Notre Dame and many world-known scholars are invited to be keynote speakers introducing international cutting-edge new technologies, new methods, new achievements. At the same time, parallel sessions including 10 fields will be held, comprising electron microscopy and materials sciences, mass spectrometry, optical spectroscopy, chromatography, magnetic resonance spectroscopy, electroanalytical chemistry, analytical techniques in life sciences, environmental analysis, chemical metrology and reference materials, labeled immunoassay. During BCEIA 2019, many other events including hot-topic forums, concurrent meetings, poster presentations and seminars will be held in order to promote international academic exchanges in instrumental analysis field and improve the development of analytical science.

With a total exhibition area comprising 35, 000m², which is 9,000m² more than that of the previous event, BCEIA2019 will display the world’s latest technologies, methods, instruments, devices, and components in the field of analytical testing. There are specific areas to present the achievements for the development of Major Scientific Instruments and Equipment of the State and development of Local Scientific Instruments.

We warmly welcome experts, scholars, professionals, and scientists to visit BCEIA2019 and conduct your international academic conferences, annual meetings, forums or other gatherings. BCEIA Organizing Committee will provide you meeting venues and considerate services.

BCEIA 2019 CONFERENCE GENERAL SCHEDULE

Date	Time	Location & Activities
October 23	8:30-18:00	Registration Location: First floor, China National Convention Center, Beijing
October 24	AM 9:15-12:00	BCEIA 2019 Plenary Session Location: Hall C, Room309A-B,, China National Convention Center, Beijing
	PM 13:30-17:15	
	PM 18:00-20:00	Welcoming Banquet Location: Second floor, Intercontinental Beijing Beichen
October 25	AM 8:30-12:00	Oral Presentation, Posters
	PM 13:30-18:00	
	PM 13:00-14:15	Analytical Chemistry: Meet the Editor Location: Hall C, Room311B,, China National Convention Center, Beijing
October 26	AM 8:30-12:00	Oral Presentation, Posters
	PM 13:30-18:00	



BCEIA 2019 MEETING ROOM SCHEDULE

DATE	Meeting	Room
October 24	PLENARY LECTURES	309A-B
October 25 October 26	A. Electron Microscopy and Materials Sciences	309A
	B. Mass Spectrometry	309B
	C. Optical Spectroscopy	310
	D. Chromatography	311A
	E. Magnetic Resonance Spectroscopy	306A
	F. Electro-analytical Chemistry	306B
	G. Analytical Techniques in Life Sciences	311B
	H. Environment Analysis	307B
	I. Chemical Metrology & Reference Materials	308
	J. Labeled Immunoassay	307A

Academic Committee of BCEIA2019

Chairman

Chen Hongyuan	Member of CAS	Nanjing University
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Vice Chairmen

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Jiang Guibin	Member of CAS	Research Center for Eco- environmental Sciences, CAS
Zhang Yukui	Member of CAS	Dalian Institute of Chemical Physics, CAS
Zhang Xuemin	Member of CAS	Academy of Military Medical Sciences
Zhang Ze	Member of CAS	Zhejiang University

Secretary-General

Zhang Xinrong	professor	Tsinghua University
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Committee Members (in alphabetical order)

Chai Zhifang	Member of CAS	Institute of High Energy Physics Chinese Academy of Sciences
Derek Craston	chief scientist	Laboratory of the Government Chemist, UK
Knut W. Urban	professor	Institute of Solid State Research and Ernst Ruska Center for Microscopy and Spectroscopy with Electrons
X. Chris LE	professor	University of Alberta, Canada
Li Hongmei	professor	National Institute of Metrology, China
Li Jinghong	professor	Tsinghua University
Li Liang	professor	University of Alberta, Canada
Lin Jinming	professor	Tsinghua University
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Lu Yi	professor	University of Illinois, Urbana-Champaign, USA
Norman J. Dovichi	professor	University of Notre Dame, USA
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Shen Jianzhong	Member of CAS	China Agricultural University
Tang Benzong	Member of CAS	Hong Kong University Science & Technology



Yan Guangtao	professor	Chinese PLA General Hospital
Edward S. Yeung	professor	Iowa State University, USA
Yang Xiurong	Member of CAS	Changchun Institute of Applied Chemistry, CAS
Zeper ABLIZ	professor	Minzu University of China
Zhang Lihua	professor	Dalian Institute of Chemical Physics, CAS
Zhao Yuliang	Member of CAS	National Center for Nanoscience and Technology
Zhu Fangye	associate professor	Far Eastern Memorial Hospital, Taiwan, China
Zhu Lizhong	Member of CAE	Zhejiang University

Advisors (in alphabetical order)

Huang Ben Li	Member of CAS	Xiamen University
Jin Guofan	Member of CAS	Tsinghua University
Shi Yunyu	Member of CAS	University of Science and Technology of China
Wang Erkang	Member of CAS	Changchun Institute of Applied Chemistry, CAS
Wang Haizhou	Member of CAS	China Iron and Steel Research Institute Group
Wei Fusheng	Member of CAS	China National Environmental Monitoring Centre
Ye Hengqiang	Member of CAS	Institute of Metal Research, CAS
Ye Zhaohui	Member of CAS	Wuhan Institute of Physics and Mathematics , CAS
Zhu Jing	Member of CAS	Tsinghua University

SCHEDULE OF PLENARY SESSION

Date	October 24, 2019		
Location	Location: Hall C, Room309A-B,, China National Convention Center, Beijing		
AM			
Chairman	Member Guibin Jiang		
9:15-9:25	Opening address: Member Hongyuan Chen		
Time	No.	Lecturer	Title
9:30-10:05	1	Member Ze Zhang	In-situ electron microscopy towards materials design and functional evolution
10:05-10:40	2	Member Shigang Sun	Analysis of Electrochemical Energy Processes by Developing In-situ/Operando Spectroscopy
10:40-10:50	Coffee Break		
Chairman	Member Yukui Zhang		
Time	No.	Lecturer	Title
10:50-11:25	3	Member Zhongfan Liu	The road to industrialization of graphene
11:25-12:00	4	Professor Norman J. Dovichi	Capillary electrophoresis coupled with next-generation DNA sequencing for metagenomic analysis of a microbiome



PM			
Chairman	Member Erkang Wang		
Time	No.	Lecturer	Title
13:30-14:05	5	Professor John Markley	Human Frataxin and its Role in Iron Delivery during Biosynthesis of Iron-Sulfur Clusters
14:05-14:40	6	Professor Catherine E. Costello	Mass Spectrometric Investigations of Molecular Details That Regulate Biological Functions
14:40-15:15	7	Professor Yi Lu	Functional DNA Nanotechnology and its Applications in Environmental Monitoring, Medical Diagnostics and Imaging
15:15-15:30	Coffee Break		
Chairman	Member Weihong Tan		
Time	No.	Lecturer	Title
15:30-16:05	8	Professor X. Chris LE	Analytical advances enabling environmental health research
16:05-16:40	9	Dr. Bernd GÜTTLER	New definiton for units in chemistry - exactly
16:40-17:15	10	Associate professor Fangye Zhu	New Biomarkers for Hepatocellular Carcinoma

SCHEDULE OF SESSIONS

A: Electron Microscopy and Materials Sciences

CHAIRMAN: Prof. Han Xiaodong

ORAL LECTURES

Keynote: 25 min talk + 5 min questions

Invited: 20 min talk + 5 min questions

Location: Room 309A, China National Convention Center, Beijing

Date: October 25, 2019 AM

Chairman: Professor Xiaodong Han (Session 1)

8:30-8:40

Opening address by Professor Ze Zhang

8:40-9:10

A2

DESIGNING FUNCTIONAL MATERIALS VIA ATOMIC-RESOLUTION MICROSCOPY AND SPECTROSCOPY

Prof. Stephen J. Pennycook

National University of Singapore, Singapore

9:10-9:40

A3

UNDERSTANDING THE GROWTH OF LOW-DIMENSIONAL NANOSTRUCTURES USING ELECTRON MICROSCOPY

Prof. Jin Zou

The University of Queensland, Brisbane, Queensland, Australia

9:40-10:00

Coffee break

Chairman: Professor Stephen J Pennycook (Session 2)

10:00-10:30

A4

THE ESTABLISHMENT OF LORENTZ TEM AND IN SITU MAGNETISM

Prof. Renchao Che

Fudan University, Shanghai, China

10:30-11:00

A5

PHASE ENGINEERING OF NANOMATERIALS

Prof. Hua Zhang

City University of Hong Kong, Hong Kong, China

11:00-11:30

A6

TEM STUDIES ON EPITAXIAL MAGNETIC THIN FILMS

Prof. Richeng Yu

Chinese Academy of Sciences, Beijing, China

11:30-14:00

Lunch



Date: October 25, 2019 PM

Chairman: Professor Jin Zou (Session 3)

14:00-14:30 A7 TBC

Prof. Keesam Shin

National changwon university, South Korea

14:30-15:00 A8 RECENT PROGRESS IN QUANTITATIVE STEM-ENERGY LOSS MAGNETIC
CHIRAL DICHROISM MEASUREMENT

Prof. Shunsuke Muto

Nagoya University, Furo-cho, Chikusa-ku, Nagoya, Japan

15:00-15:30 A9 IN SITU STUDY THE CHANGE OF NANOSTRUCTURE IN LIQUID

Prof. Qing Chen

Peking University, Beijing, China

15:30-15:50 **Coffee break**

Chairman: Professor Keesam Shin (Session 4)

15:50-16:20 A10 STRUCTURAL MODULATION: FROM LONG-RANGE ORDER TO SHORT-
RANGE ORDER

Prof. Binghui Ge

Chinese Academy of Sciences, Beijing, China

16:20-16:50 A11 DEVELOPMENT AND APPLICATION OF UTEM IN MATERIAL SCIENCE

Prof. Huaixin Yang

Chinese Academy of Sciences, Beijing, China

16:50-17:20 A12 IN-SITU OBSERVATION OF THE DYNAMIC BEHAVIORS OF NANOCATALYSTS
BY ENVIRONMENTAL TEM

Prof. Yong Wang

Zhejiang University, Hangzhou, China

17:30-21:00 **Banquet**

Date: October 26, 2019 AM

Chairman: Professor Shunsuke Muto (Session 5)

9:00-9:30 A13 IN-SITU TEM STUDY ON SOLAR CELL

Prof. Litao Sun

Southeast University, Nanjing, China

9:30-10:00 A14 REVEALING THE DYNAMIC OF RADIATION DEFECTS USING IN SITU
NANOMECHANICAL TESTING INSIDE TEM

Prof. Weizhong Han

Xi'an Jiaotong University, Xi'an, China

10:00-10:20 **Coffee break**

Chairman: Professor Richeng Yu (Session 6)

10:20-10:50 A15 INTERFACE EFFECTS ON MECHANICAL PROPERTIES OF STRUCTURAL
MATERIALS

Prof. Shijian Zheng

Chinese Academy of Sciences, Shenyang, China

10:50-11:20 A16 TBC

Prof. Xiaoyan Li

11:20-11:50 A17 NEW POLAR STRUCTURES IN FERROELECTRIC FILMS: FROM PREPARATION
TO ATOM

Prof. Yunlong Tang

Chinese Academy of Sciences, Shenyang, China

11:50-14:00 **Lunch**

Date: October 26, 2019 PM

Chairman: Professor Qing Chen (Session 7)

14:00-14:30 A18 LOW-VOLTAGE STEM FOR 2D MATERIALS

Prof. Wu Zhou

University of Chinese Academy of Sciences, Beijing, China

14:30-15:00 A19 APPLICATIONS OF MONOCHROMATED STEM EELS IN FERROELECTRIC
MATERIALS AND DEVICES

Prof. He Tian

Zhejiang University, Hangzhou, China

15:00-15:20 **Coffee break**

Chairman: Professor Litao Sun (Session 8)

15:20-15:50 A20 ATOMIC-PLANE RESOLVED ELECTRON MAGNETIC CIRCULAR DICHROISM
BY CHROMATIC-ABERRATION-CORRECTED ELECTRON ENERGY LOSS
SPECTROSCOPY

Prof. Xiaoyan Zhong

Tsinghua University, Beijing, China



16:20-16:50 A21 ATOMIC-SCALE MECHANISM OF BRITTLENESS BEHAVIOR IN NANO-POROUS METAL MATERIALS

Prof. Pan Liu

Shanghai Jiaotong University, Shanghai, China

A22 ATOMIC RESOLUTION IN SITU EXPERIMENTS ACROSS WIDE TEMPERATURE AND STRESS

Prof. Xiaodong Han

Beijing University of Technology, Beijing, China

16:50

Closing Remarks

POSTER SESSION

A23 STRONGLY ENHANCED ULTRAVIOLET EMISSION OF AN AU@ SiO₂/ZNO PLASMONIC HYBRID NANOSTRUCTURE

Yizhong Guo, Li Wang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A24 EVOLUTION OF MICROSTRUCTURE AND MECHANICAL PROPERTIES OF A DISSIMILAR ALUMINIUM ALLOY WELDMENT

Libo Fu, Xiaodong Wang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A25 FABRICATION OF INDIVIDUAL CARBON NANOTUBES AND THEIR ARRAYS IN A TRANSMISSION ELECTRON MICROSCOPE

Pengcheng Yang, Kun Zheng

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A26 FABRICATION OF INDIVIDUAL CARBON NANOTUBES AND THEIR ARRAYS IN A TRANSMISSION ELECTRON MICROSCOPE

Rujian Wei, Kun Zheng

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A27 DEFORMATION MECHANISMS OF BENT SI NANOWIRES GOVERNED BY THE SIGN AND MAGNITUDE OF STRAIN

Tao Sun, Lihua Wang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A28 VACANCY STRUCTURES AND MELTING BEHAVIOR IN ROCK-SALT GDSBTE

Ming Huang, Bin Zhang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A29 ELEMENT-RESOLVED ATOMIC STRUCTURE IMAGING OF ROCKSALT GE₂SB₂TE₅ PHASE-CHANGE MATERIALS



Xingfei Pei, Bin Zhang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A30 ATOMISTIC MECHANISM OF STRESS-INDUCED COMBINED SLIP AND DIFFUSION IN SUB-5 NANOMETER-SIZED AG NANOWIRES

Zhihao Zhang, Bin Zhang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A31 CSPBBR3 NANOCRYSTALS COMPOSITES APPLIED TO X-RAY DETECTORS

Quan ZHOU¹, Jiawen XIAO^{1*}, Lin MA¹, Xiaodong HAN¹

Institute of Microstructure and Property of Advanced Materials, Beijing University of Technology, Beijing 100124, China.

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A32 MECHANICAL BEHAVIOR OF METALLIC NANOWIRES WITH TWIN BOUNDARIES PARALLEL TO LOADING AXIS

Chunlang GAO, Xiaodong HAN

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A33 IN SITU STUDY OF FRACTURE BEHAVIOR OF ULTRAFINE WC-CO CEMENTED CARBIDE

Weiming Li, Xiaodong Han

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A34 ELEMENTAL PREFERENCE AND ATOMIC SCALE SITE RECOGNITION IN A CO-AL-W-BASE SUPERALLOY

Mengyue Chen, Yanhui Chen

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A35 NEW TWINNING ROUTE IN FACE-CENTERED CUBIC NANOCRYSTALLINE METALS

Wuyuan Tan, Lihua Wang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A36 HIGH THERMOELECTRIC PERFORMANCE OF CU₃SBSE₄ NANOCRYSTALS WITH CU₂-X SE IN SITU INCLUSIONS SYNTHESIZED BY A MICROWAVE-ASSISTED SOLVOTHERMAL METHOD

Yuanli Li, Xiaodong Han

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A37 IN SITU TEM: THEORY AND APPLICATIONS

Yadi Zhai, Kun Zheng

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A38 PEPTIDES FUNCTIONALIZED NANOFIBERS FOR SPECIFIC SPIRAL SILVER NANOBELTS BY GALVANIC REPLACEMENT

Peijing Ma, Lin M

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A39 MINIMUM INTERFACE MISFIT CRITERION FOR THE PRECIPITATION MORPHOLOGIES OF TCP PHASES IN A NI-BASED SINGLE CRYSTAL SUPERALLOY

Yunzhi ZHEGN, Haibo Long

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A40 TWIN ENGINEERING IN SOLUTION-SYNTHESIZED NONSTOICHIOMETRIC Cu_5FeS_4 ICOSAHERAL NANOPARTICLES FOR ENHANCED THERMOELECTRIC PERFORMANCE

Yihong Wang, Xiaodong Han

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A41 IN SITU ATOMISTIC DEFORMATION MECHANISMS OF TWIN-STRUCTURED NANOCRYSTAL PT

Hanwen Hu, Lihua Wang

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A42 SIZE DEPENDENCE OF DISLOCATION ACTIVITIES AND INDEPENDENCE ON THEORETICAL ELASTIC STRAIN LIMIT IN PT NANOCRYSTALS REVEALED BY ATOMIC-RESOLUTION IN SITU INVESTIGATION

Hualei Yuan, Lihua Wang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A43 ELECTRICAL PROPERTIES AND STRUCTURAL TRANSITION OF $\text{Ge}_2\text{Sb}_2\text{Te}_5$ ADJUSTED BY RARE-EARTH ELEMENT GD FOR NONVOLATILE PHASE-CHANGE MEMORY

Xiaochen Li, Yongjin Chen



Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A44 EFFECT OF CHEMICAL COMPOSITION ON PARTICLE MORPHOLOGY OF TOPOLOGICALLY CLOSE-PACKED PRECIPITATES IN A NI-BASED SINGLE CRYSTAL SUPERALLOY

Dongfeng Ma, Haibo Long

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A45 IN SITU ATOMIC SCALE MECHANISMS OF STRAIN-INDUCED TWIN BOUNDARY SHEAR TO HIGH ANGLE GRAIN BOUNDARY IN NANOCRYSTALLINE PT

Wenshuai Wang, Lihua Wang

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A46 SURFACE ENERGY DRIVEN LIQUID-DROP-LIKE PSEUDOELASTIC BEHAVIORS AND IN SITU ATOMISTIC MECHANISMS OF SMALL-SIZED FACE-CENTERED-CUBIC METALS

Xin Wang, Deli Kon

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A47 QUANTITATIVE ANALYSIS OF AZODICARBONAMIDE IN HDPE PELLETS AND EXTRUDED CABLES BY HPLC-UV ABSORBANCE

The formation mechanism of a novel interfacial phase with high thermal stability in a Mg-Gd-Y-Ag-Zr alloy

Xueqiao Li, Lirong Xiao

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A48 ATOMISTIC MECHANISM OF STRESS-INDUCED COMBINED SLIP AND DIFFUSION IN SUB-5 NANOMETER-SIZED AG NANOWIRES

Shaojing Hu, Lihua Wang

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A49 EFFECT OF PRE-STRAINING TREATMENT ON HIGH TEMPERATURE CREEP BEHAVIOR OF NI-BASED SINGLE CRYSTAL SUPERALLOYS

Menglong Wang, Haibo Long

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A50 STABILITY ENHANCEMENT OF THE METASTABLE CUBIC SB2TE3 IN SUPPERLATTICE-LIKE FILMS

Xiaomeng Yang, Lihua Wang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A51 BENT STRAIN VALUES AFFECT THE PLASTIC DEFORMATION BEHAVIOURS OF TWINNED NiNWS

Qing Zhang, Lihua Wang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A52 DEFORMATION MECHANISMS OF BENT Si NANOWIRES GOVERNED BY THE SIGN AND MAGNITUDE OF STRAIN

Atomistic Mechanism of Stress-Induced Combined Slip and Diffusion in Sub-5 Nanometer-Sized Ag Nanowires

Shiduo Sun, Deli Kong, Duohui Li, Lihua Wang

Beijing Key Lab and Institute of Microstructure and Properties of Advanced Materials, Beijing University of Technology, Beijing, 100124, China

A53 IN SITU INVESTIGATION OF SYNCHRONIZED DISLOCATION ARRAY NUCLEATION AND PHASE TRANSFORMATION AT MODE I-II CRACKS OF SINGLE-CRYSTALLINE MO

Yan Lu^a, Xinyu Shu^{ab}, Zhipeng Li^a, Haibo Long^a, Deli Kong^a, Shiduo Sun^a, Qingsong Deng^a, Yanhui Chen^a, Zhongwu Hu^c, LihuaWang^a, XiaodongHan^a

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^b Department of Material Science and Engineering, National University of Singapore, Singapore, 117575, Singapore

^c Northwest Institute for Nonferrous Metal Research, Xi'an, 710016, China

A54 THICKNESS-DEPENDENT BAND GAP OF A-IN₂SE₃ CHARACTERIZED BY ELECTRON ENERGY-LOSS SPECTROSCOPY

Fengjiao Lyu¹, Yuanwei Sun², Bin Tang^{1,3}, Mingqiang Li², Mei Sun¹, Peng Gao², **Qing Chen^{1*}**

¹ Key Laboratory for the Physics and Chemistry of Nanodevices, Department of Electronics, Peking University, Beijing 100871, China

² Electron Microscopy Laboratory, School of Physics, Peking University, Beijing 100871, China

A55 FABRICATION OF ZNO NANO-SHUTTLES BY ETCHING ZNO NANOWIRES IN RADIOLYTIC WATER.

Mei Sun¹, Bocheng Yu², Fengjiao Lv¹, Jiamin Tian¹, Xianlong Wei¹ and **Qing Chen^{*1}**

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² National Key Laboratory of Science and Technology on Micro/Nano Fabrication, Institute of Microelectronics, Peking University, Beijing 100871, China

A56 ANALYSING CHEMICALS RELEASED FROM RESPIRATORY MEDICAL DEVICES IN COMPLIANCE WITH ISO 18562

Bing Zhang, Allen Yang, Caroline Widdowson, Nikhil Sahotra, Chris Llewellyn

A57 OPTIMIZING WORKFLOW IN ELECTRON MICROSCOPES WITH FAST BSE/STEM DIODES AND PREAMPLIFIER MODULES

Maximilian Schmid¹, Andreas Liebel¹, Robert Lackner¹, Daniel Steigenhöfer¹, Adrian Niculae¹, Heike Soltau¹

¹ PNDetector GmbH, Otto-Hahn-Ring 6, 81739 München, Germany

A58 ACCURATE MEASUREMENT OF SEEBECK COEFFICIENT OF THERMOELECTRIC MATERIALS

Shuo Li¹, Lingling Ren^{1,*}, Yaxuan Yao¹, Tao Guo²

¹ Center for Advanced Measurement Science, National Institute of Metrology, China, No.18 Bei San Huan Dong Lu, Chaoyang District, Beijing 100029 China

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SCHEDULE OF SESSIONS

B. MASS SPECTROMETRY

CHAIR: Prof. Huwei LIU

ORAL LECTURES

Time: Oct. 25, 2019 AM (Friday)

Location: Room 309B, China National Convention Center, Beijing

Topic: BioMS----“-omics”

Chair: Prof. Huiru TANG and Prof. Yasushi ISHIHAMA

8:30-8:35	/	Opening Remarks
8:35-9:00	B2	CHALLENGES TO ILLUMINATE HUMAN PROTEOME AND PROTEOFORM Yasushi ISHIHAMA (Keynote) <i>Kyoto University, Kyoto, Japan</i>
9:00-9:25	B3	ANALYSIS OF BIOMOLECULES USING MASS SPECTROMETRY WITH ELECTRON TRANSFER DISSOCIATION Chien-Chen LAI (Keynote) <i>National Chung Hsing University</i>
9:25-9:50	B4	QUANTITATING HUMAN METABONOMIC PHENOTYPES AND CHALLENGES Huiru TANG (Keynote) <i>Fudan University</i>
9:50-10:05	B29	APPLICATION OF CYCLIC ION MOBILITY MASS SPECTROMETRY FOR HIGH PEAK CAPACITY SEPARATIONS OF NATIVE AND DEUTERATED PEPTIDE MIXTURE Steve PREECE <i>Waters Corporation</i>
10:05-10:20	B30	DISCOVERY OF STEMNESS BIOMARKERS OF MCF-7 CANCER STEM CELLS USING QUALITATIVE SITE- AND STRUCTURE-SPECIFIC N-GLYCOPROTEOMICS Zhixin TIAN <i>Tongji University</i>



10:20-10:30

Coffee Break

Topic: Fundamental I

Chair: Prof. Zongxiu NIE and Prof. Wei HANG

10:30-10:55 B5 LASER-BASED MASS SPECTROMETRY FOR HIGH RESOLUTION MASS SPECTROMETRY IMAGING

Wei HANG (Keynote)

Xiamen University

10:55-11:20 B6 CHARACTERIZING AND MAPPING PARTICLES BY MASS SPECTROMETRY

Zongxiu NIE (Keynote)

Institute of Chemistry, Chinese Academy of Sciences

11:20-11:45 B7 EXAMINATIONS ON CHEMICAL REACTIONS BY AMBIENT MASS SPECTROMETRY

Na NA (Keynote)

Beijing Normal University

11:45-12:00 B31 APPLICATION OF ULTIMO MINIATURIZED MASS SPECTROMETRY IN RAPID SCREENING AND MOBILE DETECTION

Jianzhong LI

Agilent Technologies (China)

12:00-13:30

Lunch Time/Poster Session

Time: Oct. 25, 2019 PM (Friday)

Location: Room 309B, China National Convention Center, Beijing

Topic: MS Applications

Chair: Prof. Qingsong Lin and Prof. Zhongping YAO

13:30-13:55 B8 QUALITATIVE AND QUANTITATIVE ANALYSIS OF EDIBLE OILS BY MALDI-MS

Zhongping YAO (Keynote)

The Hong Kong Polytechnic University

13:55-14:20 B9 DEVELOPMENT OF “VIRTUAL TANDEM MS” WITH SINGLE Q-MS FOR SCREENING TECHNIQUE IN MATERIAL QUALITY CONTROL

Takahisa TSUGOSHI (Keynote)

National Institute of Advanced Industrial Science and Technology

- 14:20-14:45 B10 MECHANISTIC ELUCIDATION OF ANTIMALARIAL AND ANTICANCER ACTIVITIES OF ARTEMISININ BY MASS SPECTROMETRY
Qingsong LIN (Keynote)
National University of Singapore
- 14:45-15:10 B11 PRECISE AND ACCURATE DETERMINATION OF ALL 54 MAJOR, MINOR AND TRACE ELEMENTS IN SILICATES INDEPENDENTLY BY LA-Q ICP-MS
Zhongxing CHEN (Keynote)
Harvard University
- 15:10-15:25 B32 SEQUENTIAL DETECTION OF ORGANIC AND INORGANIC COMPOUNDS IN MISCELLANEOUS SAMPLES BY MASS SPECTROMETRY
Jiaquan XU
East China Institute of Technology
- 15:25-15:40 B33 A POTENTIAL WORKING REFERENCE FOR LA-MC-ICP-MS CASSITERITE U-PB DATING
Ruiping LIU
Beijing Research Institute of Uranium Geology
- 15:40-16:00 **Coffee Break**

Topic: Fundamental II**Chair: Prof. Yu BAI and Prof. Ivan K. CHU**

- 16:00-16:25 B12 PROTEIN TYROSINE NITRATION IN ISCHEMIC STROKE: FROM BIOANALYTICAL CHEMISTRY, TO BIOINFORMATICS, AND TO FUNDAMENTAL ELUCIDATION
Ivan K. CHU (Keynote)
The University of Hong Kong
- 16:25-16:50 B13 REAL-TIME, DROPLET-SCALE MASS SPECTROMETRIC SCREENING PLATFORM FOR REACTION MECHANISM STUDIES
Jie JIANG (Keynote)
Harbin Institute of Technology at Weihai
- 16:50-17:15 B14 ULTRA-SENSITIVE DETECTION AND IMAGING OF CLINICAL BIOMARKERS USING AMBIENT MASS SPECTROMETRY
Yu BAI (Keynote)
Peking University



17:15-17:40 B15 AIR-WATER INTERFACE MASS SPECTROMETRY COMBINED WITH PHASED-ARRAY ACOUSTIC TWEEZERS

Xinxing ZHANG (Keynote)

Nankai University

17:45-17:55 B34 THE MARRIAGE OF “SOFT” AND “HARD” IN MASS SPECTROMETRY

Lei YUE

Technische Universität Berlin

Time: Oct. 26, 2019 AM (Saturday)

Location: Room 309B, China National Convention Center, Beijing

Topic: BioMS

Chair: Prof. Yinlong GUO and Prof. Xinrong ZHANG

8:30-8:55 B16 LABEL-FREE MASS CYTOMETRY: METHOD AND APPLICATION

Xinrong ZHANG (Keynote)

Tsinghua University

8:55-9:20 B17 PREOPERATIVE CLASSIFICATION OF THYROID NODULES USING MASS SPECTROMETRY IMAGING OF FINE NEEDLE ASPIRATION BIOPSIES

Jialing ZHANG (Keynote)

The University of Texas at Austin

9:20-9:45 B18 SINGLE CELL “ON-PROBE” DERIVATIZATION: UNRAVELING CELLULAR HETEROGENEITY OF STEROL METABOLITES

Yinlong GUO (Keynote)

Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences

9:45-10:00 B35 INNOVATIVE ION SOURCE TECHNOLOGY EXPANDS MASS SPECTROMETRY APPLICATIONS

Li DENG

Shimadzu (China) Co., Ltd.

10:00-10:15 B36 EARLY DETECTION AND PREDICTION OF DIABETIC NEPHROPATHY BY URINARY PROTEIN AND METABOLITE BIOMARKERS

Chao-Jung Chen

China Medical University Hospital

10:15-10:30

Coffee Break

Topic: Fundamental III**Chair: Prof. Cheng LIN and Prof. Han Bin OH**

10:30-10:55 B19 LC-MS/MS SOFTWARE FOR SCREENING UNKNOWN ERECTILE
DYSFUNCTION DRUGS AND ANALOGS: ANN CLASSIFICATION AND HYBRID
SIMILARITY SEARCH ALGORITHMS

Han Bin OH (Keynote)*Sogang University*

10:55-11:20 B20 PROBING STRUCTURE AND UNFOLDING OF A TRIMERIC COILED COIL IN
THE GAS PHASE BY NATIVE TOP-DOWN MASS SPECTROMETRY

Huilin LI (Keynote)*Sun Yat-Sen University*

11:20-11:45 B21 THE DEVELOPMENT OF AN AUTOMATED GLYCAN SEQUENCER

Cheng LIN (Keynote)*Boston University School of Medicine*

11:45-12:00 B37 HOMOLOGOUS SERIES STRATEGY IN PETROCHEMISTRY STUDY USING ION
MOBILITY MASS SPECTROMETRY

Yehua HAN*China University of Petroleum-Beijing*

12:00-13:30

Lunch time/Poster Session**Time: Oct. 26, 2019 PM (Saturday)****Location: Room 309B, China National Convention Center, Beijing****Topic: BioMS----“-omics”****Chair: Prof. Lihua ZHANG and Prof. Xiaohong QIAN**

13:30-13:55 B22 THE DEVELOPMENT AND APPLICATION OF MASS SPECTROMETRY-BASED
TECHNIQUES IN PROTEOMICS AND GLYCOPROTEIN STUDY

Xiaohong QIAN (Keynote)*Beijing Proteome Research Center*

13:55-14:20 B23 MODIFICATION-FREE APPROACHES TO SCREEN DRUG TARGETS AT
PROTEOME LEVEL

Mingliang YE (Keynote)*Dalian Institute of Chemical Physics, Chinese Academy of Sciences*



- 14:20-14:45 B24 NEW METHODS FOR DEEP-COVERAGE ANALYSIS OF PROTEIN-PROTEIN INTERACTION BY CROSS-LINKING MASS SPECTROMETRY
Lihua ZHANG (Keynote)
Dalian Institute of Chemical Physics, Chinese Academy of Sciences
- 14:45-15:10 B25 SALMONELLA PROTEOMIC PROFILING DURING INFECTION DISTINGUISHES THE INTRACELLULAR ENVIRONMENT OF HOST CELLS
Xiaoyun LIU (Keynote)
Peking University Health Science Center
- 15:10-15:25 B38 TRAPPED ION MOBILITY ENHANCED 4-DIMENSIONAL PROTEOMICS AND SPATIALOMX
Ning CHEN
Bruker (Beijing) Scientific Technology Co., Ltd.
- 15:25-15:40 B39 METABOLOMICS-PROTEOMICS REVEALS NOVEL FUNCTIONAL TARGETS OF ENDOGENOUS COMPOUNDS IN CANCER METABOLISM
Hui YE
China Pharmaceutical University
- 15:40-16:00 **Coffee Break**

Topic: BioMS----“omics”

Chair: Prof. Yu XIA and Prof. Gavin REID

- 16:00-16:25 B26 TOWARD UNDERSTANDING THE FUNCTIONAL ROLE OF ABBERRANT LIPID METABOLISM IN COLORECTAL CANCER BY ADVANCED MASS SPECTROMETRY BASED LIPIDOMIC ANALYSIS
Gavin E. REID (Keynote)
The University of Melbourne
- 16:25-16:50 B27 ANALYSIS OF ETHER GLYCEROPHOSPHOLIPIDS DOWN TO C=C LOCATIONS
Yu XIA (Keynote)
Tsinghua University
- 16:50-17:15 B28 MASS SPECTROMETRY FOR ANALYSIS OF NUCLEIC ACID MODIFICATIONS
Bifeng YUAN (Keynote)
Wuhan University
- 17:15-17:30 / **Poster Awards/Closing Remarks**
Chair: Prof. Huwei LIU

POSTER SESSION

B40 BA NOVEL MASS SPECTROMETRY METHOD BASED ON COMPETITIVE NANOCOVALENT INTERACTION FOR THE DETECTION OF O BIOMAKER**Jing Han**, Caiqiao Xiong, Zongxiu Nie

Beijing National Laboratory for Molecular Sciences, China

B41 AN OPTIMIZED METHOD FOR THE UNTARGETED PROFILING OF POLAR CELLULAR METABOLITES USING HYDROPHILIC INTERACTION LIQUID CHROMATOGRAPHY HIGH RESOLUTION MASS SPECTROMETRY**Jiaxing Liu**, Qingce Zang, Xiaoyu Xu, Jiuming He, Ruiping Zhang, Zeper Abliz

Peking Union Medical College, China

B42 ANALYSIS OF ANTIDIABETIC DRUGS IN HYPOGLYCEMIC FORMULA POWDER BY UHPLC COUPLED WITH Q-EXACTIVE MASS SPECTROMETRY**Hua Yan**, Zhaohui Zhang, Fengyun Cui, Yangqingxue Liu, Heming Qi, Wei Bie, Nana Liang, Shen Han

Beijing Inspection and Quarantine Testing Center, China

B43 MT EXPLORER 50: A NEXT GENERATION PORTABLE MASS SPECTROMETER**Bei Song**, Xiaokun Duan, Wei Chen, Charles Liu

ASPEC Technologies Limited, Beijing, China

B44 ATMOSPHERIC PRESSURE MALDI (AP/MALDI) MASS SPECTROMETRY: RECENT APPLICATIONS WITH HIGH SPATIAL AND HIGH MASS SPECTRAL RESOLUTION IN SITE ANALYSIS**Kerry Song**, Xiaokun Duan, Wei Chen, Charles Liu

1 ASPEC Technologies Limited, Beijing, China

B45 CARBON CHAIN ELONGATION FACILITATED BY THE REPULSIVE COULOMB FORCE BETWEEN TWO GAS-PHASE CATIONS**Xiaoping ZHANG**, Keke HUANG, Yuanyuan CHENG, Xiang REN, Honghan CHEN, Yufen WANG, Shouhua FENG, Huanwen CHEN

East China University of Technology, Nanchang, China.

B46 MAPPING OF COMPLEX DISULFIDE BONDS WITH LC/MS/MS AND POST-COLUMN PHOTOCHEMICAL ONLINE REDUCTION.**Xiaoyue Yang**, Yu Xia

Tsinghua University

B47 ANALYSIS OF ODOR COMPONENTS IN MICROBIAL MEDIA BY GC/MS COMBINED WITH OFF-FLAVOR SYSTEM



Yong WANG, Jun FAN

1SHIMADZU (CHINA) CO., LTD , Beijing branch, China

B48 Ti_3C_2 MXENE AS A NOVEL SUBSTRATE PROVIDES RAPID DIFFERENTIATION AND QUANTITATION OF GLYCAN ISOMERS WITH LDI-MS

Yuming Jiang, Jie Sun, Yi Cui, Caiqiao Xiong, Xiaoyong Zhang, Yurong Jiang, Zongxiu Nie

Beijing National Laboratory for Molecular Sciences, Key Laboratory for Analytical Chemistry for Living Biosystems, Institute of Chemistry, the Chinese Academy of Sciences, China

B49 AN IMPROVED CALIBRATION APPROACH FOR TRAVELLING WAVE ION MOBILITY SPECTROMETRY: ROBUST, HIGH-PRECISION COLLISION CROSS SECTIONS

Keith Richardson, David Langridge, Kevin Giles, Sugyan Dixit, Jakub Ujma1, Brandon Ruotolo, Zhiying Wang

Waters Corporation, Altrincham Road, Wilmslow, UK;

B50 THE EIGHT(Y) MILLION POUND QUESTION: USING DESI AMBIENT MS IMAGING FOR THE FORENSIC ANALYSIS

Huiqin Zhong, Zhengwei Jia, Wei Rao, Anthony Midey, Bindesh Shrestha,

Waters Technology (Shanghai) Limited, Shanghai, China

B51 DIFFERENTIATING COMMERCIAL LUBRICANT OILS USING ION-MOBILITY ENABLED MASS SPECTROMETRY

Gordon Jones, Jeff Goshawk, Caitlyn Da Costa1, Eleanor Riches, Zhiying Wang

Waters Corporation, Stamford Avenue, Altrincham Road, Wilmslow, Cheshire, SK9 4AX, UK;

B52 ANALYSIS OF LIPID SIGNALING CLASS ANALYTES USING A TRAVELLING WAVE CYCLIC ION MOBILITY SEPARATOR

Michael McCullagh, Martin Palmer, Steven Keller, Emma Marsden-Edwards, James I Langridge, Johannes PC Vissers, Zhiying Wang

Waters Corporation, Wilmslow, United Kingdom

B53 NONTARGETED METABOLOMICS AND TARGETED NEUROTRANSMITTERS QUANTITATIVE ANALYSIS IN PLASMA FOR THE EVALUATING ANTIPSYCHOTIC DRUG EFFECT USING UPLC-MS

Dan Liu, Zhuoling An, Pengfei Li, Lihong Liu, Yanhua Chen, Ruiping Zhang, Jiuming He and Zeper Abliz

State Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medical, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China

B54 QUANTIFICATION OF ARSENIC SPECIES IN PM_{2.5} BY HPLC-ICPMS COUPLING SYSTEM

Jin XIE, Jiaojiao XIE, Xiaodong, Chungang YUAN, Sujuan YU, Jingfu LIU

Hebei Key Lab of Power Plant Flue Gas Multi-Pollutants Control, Department of Environmental Science & Engineering, North China Electric Power University, Baoding, China

B55 HIGH COVERAGE PSEUDO TARGETED STERIOD PROFILING FOR COMPREHENSIVE ASSESSMENT OF STEROID HORMONE METABOLISM IN ESOPHAGEAL CARCINOMA**Manjiangcuo Wang**, Qingce Zang, Jing Xu, Jiuming He, Ruiping Zhang,

Zeper Abliz

State Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China

B56 IN-SITU METABOLITE PROFILING AND RAPID BIOMARKER DETECTION IN IDH MUTANT GLIOMA TISSUE WITH AMBIENT MASS SPECTROMETRYXiangyi Hui¹; Chenglong Sun¹; Jiuming He¹; Xin Li¹; Zeper Abliz^{1,2}¹ Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, 100050;² Minzu University of China, Beijing, 100081**B57 NEXT GENERATION PATERNÒ-BÜCHI REAGENTS FOR LIPID ANALYSIS BY MASS SPECTROMETRY****Jing Zhao**, Xiaobo Xie, Yu Xia

Department of Chemistry, Tsinghua University, China

B58 STEAROYL COA DESATURASE REGULATES THE COMPOSITION OF LIPID C=C LOCATION ISOMERS**Simin Cheng**, Wenbo Cao, Jiaxin Feng, Qingyuan Hu, Xu Zhao, Zheng Ouyang, Xiaoxiao Ma

Tsinghua University

B59 BIOMARKERS DISCOVERY FOR THE CLINICAL PRE WARNING OF CORONARY ARTERY DISEASE USING LC-MS BASED METABOLOMICS**Shanshan Gao**, Yiwei Lv, Chaoran Dong, Haibo Zhu, Jingang Yang, Yuejin Yang, Jiuming He and Zeper Abliz

State Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, China

B60 A NOVEL SINGLE-CELL MS ANALYSIS METHOD BASED ON ELECTRO-MIGRATION AND ELECTROPORATION**Zishuai Li**, Zhengmao Wang, Junmin Pan, Xiaoxiao Ma, and Zheng Ouyang

Tsinghua University

B61 SPATIAL DISTRIBUTION AND ECOLOGICAL RISK OF PHTHALATE ACID ESTERS IN SEDIMENTS OF THE LAIZHOU BAY**Bo-Tao Zhang**, Yiman Gao, Chunye Lin, Guoqiang Wang, Weifeng Yue, Xitao Liu, Hongrui Wang

College of Water Sciences, Beijing Normal University, China



- B62 ULTRASENSITIVE DETECTION OF THROMBIN USING MALDI-TOF MASS SPECTROMETRY**
Zengnan Wu, Ling Lin, Mashooq Khan, Weifei Zhang, Sifeng Mao, Yajing Zheng, Zenghe Li, and Jin-Ming Lin
State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing, China.
- B63 AMBIENT MASS SPECTROMETRY IMMUNOASSAYS FOR IN-SITU CELL ANALYSIS**
Shuting XU, Yu BAI and Huwei LIU
Peking University
- B64 INVESTIGATION ON ALKYL-SUBSTITUTED POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL OF DONGHUAN COAL MINE**
Yahui QIAN, Zhonggeng LUO, Handong LIANG
State Key Laboratory of Coal Resources and Safe Mining, Beijing, China
- B65 HOMOLOGUE SERIES IDENTIFICATION OF TRIAROMATIC STERANES IN CRUDE OILS BASED ON COMBINED MASS SPECTROMETRY STRATEGIES**
Chenglong DONG, Jing XIE, Yehua HAN
State Key Laboratory of Heavy Oil Processing, China University of Petroleum, 18 Fuxue Road, Changping, Beijing, China
- B66 EXPAND THE LIBRARY OF HARDWOOD BIOMASS EXTRACTIVES IN MOLECULAR LEVEL BY HIGH-RESOLUTION MASS SPECTROMETRY**
Wenya Hu, Qiong Pan, Yehua Han
State Key Laboratory of Heavy Oil Processing, China University of Petroleum, 18 Fuxue Road, Changping, Beijing, China
- B67 DETERMINATION OF NARINGENIN IN PEELS WITH DIRECT IONIZATION MASS SPECTROMETRY**
Xue CHEN, Huanwen CHEN, Handong LIANG
The Key Lab of Mass Spectrometry Science and Instrument, Jiangxi, China
- B68 TRACING THE PROCESS OF VISIBLE-LIGHT-MEDIATED DIRECT C-H ARYLATION OF HETEROARENES USING ONLINE MASS SPECTROMETRY**
Wanpeng AI, Xiaoyun LIU, Yu BAI and Huwei LIU
Peking University
- B69 TARGETED METABOLOMICS OF BILE ACIDS IN SERUM OF MIGRAINE PATIENTES BASED ON LC-MS/MS**
Shiyao Song, Wenjing Tang, Yu Bai and Huwei Liu
Peking University
- B70 FACILE ISOLATION OF EXOSOMES WITH ORGANOSILICA NANO-BOWL FOR DIRECT EXOSOMAL FINGERPRINTING ANALYSIS BY MASS SPECTROMETRY**

Jinjuan Xue, Yu Bai, and Huwei Liu

Peking University

B71 ANALYSIS OF ALIPHATIC ACIDS IN ORGANIC MATTER EXTRACTS OF BOHAI SOURCE ROCK BY ULTRA-PERFORMANCE LIQUID CHROMATOGRAPHY COMBINED WITH TRAPPED ION MOBILITY SPECTROMETRY

Yinghao Wang, Yehua Han

State Key Laboratory of Heavy Oil Processing, College of Chemical Engineering and Environment, China University of Petroleum, Beijing, China

B72 NOVEL STRATEGY OF EXOSOME ISOLATION AND ENRICHMENT FOR PROTEOMICS AND POSTTRANSLATIONAL MODIFICATION ANALYSIS

Fangyuan Gao, Fenglong Jiao, Haihong Bai, Bianbian Huo, Hang Li, Wanjun Zhang, Yangjun Zhang, Weijie Qin, and Xiaohong Qian

State Key Laboratory of Proteomics, National Center for Protein Sciences (Beijing), Beijing Institute of Lifeomics, Beijing Proteome Research Center

B73 IDENTIFICATION OF THE ORIGIN AND SUBSPECIES OF SEA BUCKTHORN BY RAPID EVAPORATIVE IONIZATION MASS SPECTROMETRY

Hua Yan, Zhaohui Zhang, Fengyun Cui, Jihong Lin, Wenli Qiu, Wei Bie, Nana Liang, Shen Han, Xin Feng

Beijing Inspection and Quarantine Testing Center, Beijing Entry-Exit Inspection and Quarantine Bureau, Beijing, China

B74 LC-MS BASED METABOLOMICS AND LIPIDOMICS STUDY OF HIGH-DENSITY LIPOPROTEIN MODULATED GLUCOSE METABOLISM WITH AN APOA-I KNOCKOUT MOUSE MODEL

Jia Liu, Mingming Zhao, Yizhang Zhu, Xu Wang, Lemin Zheng, Yuxin Yin

Institute of Systems Biomedicine, Department of Pathology, School of Basic Medical Sciences, Beijing Key Laboratory of Tumor Systems Biology, Peking-Tsinghua Center for Life Sciences, Peking University Health Science Center, Beijing, China

B75 SIMULTANEOUS MEASUREMENT OF SIX ANTIRETROVIRAL DRUGS IN HUMAN HAIR USING LC-ESI+-MS/MS

Yan Wu, Liuxi Chu, Haoran Yang, Wei Wang And Huihua Deng

School of Biological Science & Medical Engineering, Southeast University, Nanjing, China

B76 DETECTION OF ANTI-HIV NNRTIS DRUG AND ITS METABOLITES

Haoran Yang, Liuxi Chu, Yan Wu, Wei Wang, Huihua Deng

School of Biological Science & Medical Engineering, Southeast University, Nanjing, China

B77 RESEARCH AND DEVELOPMENT OF REFERENCE U-BEARING MINERALS FOR IN-SITU U-PB DATING BY V-LA-(MC)-ICP-MS AND LG-SIMS

Dongfa Guo, Boping Li, Ruiping Liu, Shengkai Xie, Jianyong Cui¹ And Sheng He

Beijing Research Institute of Uranium Geology, Beijing 100029, China

B78 SHIGELLA FLEXNERI REGULATOR SLYA CONTROLS BACTERIAL ACID RESISTANCE BY DIRECTLY ACTIVATING THE GLUTAMATE DECARBOXYLATION SYSTEM

Buyu Zhang, Longhao Ran, Mei Wu, Zezhou Li, Jiezhong Jiang, Zhen Wang, Sen Cheng, Jiaqi Fu and Xiaoyun Liu

Peking University

B79 DETERMINATION OF 4-NITROPHENOL IN WATER BY HIGH-PERFORMANCE DERIVATIZATION MASS SPECTROMETRY BASED ON MICROREACTOR

Chao Yang, Shuxia Xu, Wei Jiang, Jia Jia

College of Material and Chemistry & Chemical Engineering, Chengdu University of Technology, Chengdu, China

B80 A HIDDEN MECHANISTIC VARIANT: BRIDGING-TERMINAL OXYGEN TRANSFORMATION IN GAS-PHASE REACTION OF HETEROGENEOUS METAL-OXIDE CLUSTER ION

Na Wang, Lei Yue, Prof. Helmut Schwarz

Institut für Chemie, Technische Universität Berlin, Berlin, Germany

B81 NEW DIMENSIONS IN MASS SPECTROMETRY AND ION SPECTROSCOPY: FROM CLUSTERS TO BIOMOLECULES

Lei Yue, Prof. Thomas Rizzo

1Laboratoire de chimie physique moléculaire (LCPM), EPFL, CH G0 591 (Bâtiment CH) Station 6, CH-1015, Lausanne, Switzerland

B82 MS/MSALL STRATEGY FOR COMPREHENSIVE LIPIDOMICS

Fei Gao, Emily Chen, Michael Kiebish

DUBRAIN Technology, LLC, 199 Xiangwang St, Hangzhou, Zhejiang, China

B83 RAPID DETERMINATION OF PROGESTERONE FROM COMPLEX SAMPLES BY USING DIRECT ANALYSIS IN REAL TIME MASS SPECTROMETRY WITH HIGH SENSITIVITY

Linnan Li, Yilin Chen, Yuanguai Yang, Li Yang, And Zhengtao Wang

The MOE Key Laboratory for Standardization of Chinese Medicines, The SATCM Key Laboratory for New Resources and Quality Evaluation of Chinese Medicines, Institute of Chinese Materia Medica, Shanghai University of Traditional Chinese Medicine, Shanghai 201203, China;

B84 CHIRAL AND STRUCTURE SELECTIVE MALDI USING MOLD MATRIX

Jiawei Xu, Tatsuya FUJINO

Department of Applied Chemistry, Graduate School of Science and Engineering, Toyo University, 2100 Kujirai, Kawagoe, 350-8585, Japan

- B85 A NOVEL PTR-TOF REACTION CELL SUPERPOSING DC AND RF FIELDS**
Felipe D. Lopez-Hilfiker, Liang Zhu, Manuel Hutterli, Luca Cappellin
TOFWERK AG, Thun, Switzerland
- B86 NON-TARGET SCREENING OF ORGAINC POLLUTANTS IN WATERS FROM TYPICAL INDUSTRY USING GAS CHROMATOGRAPHY COUPLED WITH QUADRUPOLE TIME-OF-FLIGHT MASS SPECTROMETRY**
Chaofei Zhu, Wenlong Yang, Xinyao Liu, Liang Dong, Yeru Huang, Wenwen Wang
State Environmental Protection Key Laboratory of Dioxin Pollution Control, National Research Center for Environmental Analysis and Measurement, Beijing, China
- B87 ONLINE ENERGY-RESOLVED MS BOOSTS STRUCTURAL ANNOTATION POTENTIAL OF LC-MS/MS**
Yan Cao, Qingqing Song, Wenjing Liu, Yuelin Song And Jun Li
Modern Research Center for Traditional Chinese Medicine, School of Chinese Materia Medica, Beijing University of Chinese Medicine, Beijing, China
- B88 DEVELOPMENT OF HPLC-APCI-MS/MS METHOD FOR SIMULTANEOUS DETERMINATION OF TEN HORMONES IN HUMAN SALIVA**
Wei Wang, Yan Wu, Liuxi Chu, Haoran Yang, Huihua Deng
School of Biological Sciences & Medical Engineering, Southeast University, Nanjing, China
- B89 SECONDARY ION MASS SPECTROMETRY IN THE U-TH-PB ISOTOPE ANALYSES OF APATITE**
Sheng He, Dongfa Guo, Zengwei Fan, Jianyong Cui And Guifang Liu
Analytical Laboratory, Beijing Research Institute of Uranium Geology, Beijing, China
- B90 DEVELOPMENT OF HPLC-APCI-MS/MS METHOD FOR SIMULTANEOUS DETERMINATION OF TEN HORMONES IN HUMAN SALIVA**
Wei Wang, Yan Wu, Liuxi Chu, Haoran Yang, Huihua Deng
School of Biological Sciences & Medical Engineering, Southeast University, Nanjing 210096, China
- B91 DEVELOPMENT OF A LC-APCI+-MS/MS METHOD FOR THE ANALYSIS OF 12 ENDOGENOUS HORMONES IN RODENT'S HAIR AND PLASMA**
Liuxi Chu, Yan Wu, Na Li, Haoran Yang, Wei Wang, Dongrui Zhou, Huihua Deng
School of Biological Sciences & Medical Engineering, Southeast University, Nanjing, China
- B92 SELECTIVE TARGETING OF THE ZINC FINGER DOMAIN OF HIV NUCLEOCAPSID PROTEIN NCP7 WITH RUTHENIUM COMPLEXES**
Zhuanghao Hou, Yaping Sheng, Yangzhong Liu And Guangming Huang
Department of Chemistry University of Science and Technology of China, Anhui, China



B93 DETERMINATION OF HYDRAZINE COMPOUNDS BY HYDROPHILIC INTERACTION CHROMATOGRAPHY-MASS SPECTROMETRY

Linnan Xu, Tan Zhao, Siwei Mi, And Jun Li

Beijing Institute of Aerospace Testing Technology, Beijing 100074, China

B94 LASER IONIZATION TIME-OF-FLIGHT MASS SPECTROMETER FOR SUB-MICROMETER-SCALE METAL ELEMENT MASS SPECTROMETRY IMAGING BY NEAR-FIELD OPTICS TECHNIQUE

Xiaoping Li, Wei Hang

Department of Chemistry, MOE Key Lab of Spectrochemical Analysis & Instrumentation, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China

B95 SOLID-PHASE MICROEXTRACTION COUPLED TO DIELECTRIC BARRIER DISCHARGE IONIZATION-MASS SPECTROMETRY FOR IN-VIVO AND-SITU DETECTION

Qiao Lu, Le Hang, Zhouyi Xu, Renato Zenobi And Wei Hang

Department of Chemistry, MOE Key Lab of Spectrochemical Analysis & Instrumentation, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China

B96 DIRECT ELEMENTAL ANALYSIS OF SOLIDS BY BUFFER-GAS-ASSISTED LASER IONIZATION ORTHOGONAL TIME-OF-FLIGHT MASS SPECTROMETRY

Zhouyi Xu, Le Hang, Qiao Lu, Wei Hang

Department of Chemistry, MOE Key Lab of Spectrochemical Analysis & Instrumentation, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China

B97 APPROACHING STANDARDLESS QUANTITATIVE ELEMENTAL ANALYSIS OF SOLIDS WITH MICROSECOND PULSED GLOW DISCHARGE TIME-OF-FLIGHT MASS SPECTROMETRY

Le Hang, Zhouyi Xu, Qiao Lu, Wei Hang

Department of Chemistry, MOE Key Lab of Spectrochemical Analysis & Instrumentation, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China

SCHEDULE OF SESSIONS

C: Optical Spectroscopy

CHAIRMAN: Prof. He Yan

ORAL LECTURES

Date: October 25, 2019 AM

Location: Room 310, China National Convention Center, Beijing

Chairman: Yan He \ Wenwan Zhong

8:30-8:55	C2	SURFACE PLASMON RESONANCE IMAGING FOR FINGERPRINTING ANALYSIS
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Yi Chen (Keynote)*Institute of Chemistry, Chinese Academy of Sciences*

8:55-9:20	C3	VARIOUS WAVELENGTH-DEPENDENT PLASMONIC SCATTERING ILLUMINATION-BASED 3D SUPER-RESOLUTION MICROSCOPY
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Seong Ho Kang (Keynote)*Kyung Hee University*

9:20-9:45	C4	FREE-STANDING 2D PLASMONIC NANOASSEMBLIES
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Wenlong Cheng (Keynote)*Monash University*

9:45-10:00	C5	BN QD-BASED VISUAL ELECTROCHEMILUMINESCENCE NANOSENSORS WITH AMPLIFIED SURFACE PLASMON COUPLING STRATEGY FOR GENE DETECTION
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Qiang Ma*Jilin University*

10:00-10:20

Coffee break

Chairman: Yi Chen \ Seong Ho Kang

10:20-10:45	C6	CHEMILUMINESCENCE OF PEROXYNITROUS ACID AND ITS APPLICATION IN ANALYTICAL CHEMISTRY
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Jin-Ming Lin (Keynote)*Tsinghua University*



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|-------------|-----|---|
| 10:45-11:10 | C7 | DROPLET ENHANCED FLUORESCENCE AND ITS APPLICATION TO BIO-ANALYSIS

Katsumi Uchiyama (Keynote)
<i>Tokyo Metropolitan University</i> |
| 11:10-11:35 | C8 | FLUORESCENCE DISPLACEMENT ASSAY FOR ANALYSIS OF PROTEIN MODIFICATION

Wenwan Zhong (Keynote)
<i>University of California</i> |
| 11:35-11:50 | C9 | GOLD NANOBIPYRAMIDS@ZIF-8 FOR HYDROGEN SULFIDE GAS SENSING: A SPECIAL SERS RESPONSE AT THE LOW WAVENUMBER

Longhua Guo
<i>Fuzhou University</i> |
| 11:50-12:05 | C10 | SPECTRAL SOLUTION FOR MICROPLASTIC AND EXTRANEIOUS MATTER ANALYSIS

Wei Zheng
<i>Shimadzu Corporation</i> |
| 12:05-13:30 | | Lunch |

Date: October 25, 2019 PM

Chairman: Max Lei Geng \ Fan Xia

- | | | |
|-------------|-----|---|
| 13:30-13:55 | C11 | ULTRASENSITIVE NON-LABEL DETECTION METHOD FOR NANOFLUIDICS USING NANOCHANNEL OPTICAL DIFFRACTION

Kazuma Mawatari (Keynote)
<i>The University of Tokyo</i> |
| 13:55-14:20 | C12 | Quantitative Analysis of Protein Dynamics and Interactions by Live-Cell Single-Molecule Fluorescence Microscopy

Xiaohong Fang (Keynote)
<i>Institute of Chemistry, Chinese Academy of Sciences</i> |
| 14:20-14:45 | C13 | FLUORESCENT BIOSENSORS BASED ON SINGLE-MOLECULE COUNTING

Chun-yang Zhang (Keynote)
<i>Shandong Normal University</i> |

14:45-15:00 C14 INTRACELLULAR DYNAMICS REVEALED BY SINGLE-PARTICLE TRACKING

Hui Li

Beijing Normal University

15:00-15:15 C15 INSTRUMENT INNOVATION OF FLUORESCENCE TRIPLET CORRELATION SPECTROSCOPY AND ITS APPLICATIONS

Chaoqing Dong

Shanghai Jiao Tong University

15:15-15:35 **Coffee break**

Chairman: Huan-Tsung Chang \ Xiaohong Fang

15:35-16:00 C16 SPECTROSCOPY THROUGH A MICROSCOPE: PROBING HETEROGENEITY IN NANOPOROUS SILICA PARTICLES

Max Lei Geng (Keynote)

University of Iowa

16:00-16:25 C17 SINGLE MOLECULE STUDY OF HETEROGENEOUS CATALYSIS IN NANOCONFINING MATERIAL

Ning Fang (Keynote)

Georgia State University

16:25-16:50 C18 ANALYSIS AND DETECTION BASED ON SOLID NANOPORE/CHANNEL

Fan Xia (Keynote)

China University of Geosciences

16:50-17:05 C19 PREPARATION AND PROPERTIES OF SURFACE ENHANCED RAMAN SPECTROSCOPIC ACTIVE SUBSTRATES

Jian-Wei Zhao

Jiaying University

17:05-17:20 C20 ENDOPLASMIC RETICULUM-TARGETABLE RATIOMETRIC TIME-GATED LUMINESCENCE PROBE FOR SUPEROXIDE ANION BASED ON LANTHANIDE COMPLEXES

Bo Song

Dalian University of Technology



Date: October 26, 2019 AM

Chairman: Ning Fang \ Chun-yang Zhang

8:30-8:55 C21 DESIGN AND SYNTHESIS OF FLUORESCENT PROBES BASED ON
POLYARGININES

Sichun Zhang

Tsinghua University

8:55-9:20 C22 DEVELOPMENTS OF METAL COMPLEX-BASED ORGANELLE
TARGETABLE LUMINESCENT PROBES FOR TIME-GATED
LUMINESCENCE BIOASSAYS

Jingli Yuan (Keynote)

Dalian University of Technology

9:20-9:45 C23 FLUORESCENT BIOSENSORS FOR METAL DETECTION USING
DNAZYMES

Juewen Liu (Keynote)

University of Waterloo

9:45-10:00 C24 COLORIMETRIC METAL ION SENSORS BASED ON THE PARTITION OF
METAL COMPLEXES INTO POLYMERIC HYDROGELS: APPLICATION
IN COMPLEX MATRIXES

Cesar Alfredo Barbero

Universidad Nacional de Río Cuarto

10:00-10:20 **Coffee break**

Chairman: Hua-Zhong Yu \ Juewen Liu

10:20-10:45 C25 BIOMEDICAL APPLICATIONS OF FLUORESCENT NANOMATERIALS

Huan-Tsung Chang (Keynote)

National Taiwan University

10:45-11:10 C26 SENSITIVE DETECTION OF NUCLEIC ACID AND PROTEIN
BIOMARKERS WITH LOOP-MEDIATED ISOTHERMAL AMPLIFICATION
(LAMP)

Zhengping Li (Keynote)

University of Science and Technology Beijing

11:10-11:35 C27 G-QUADRUPLEX-BASED BIOIMAGING

Zhou Nie (Keynote)

Hunan University

11:35-11:50 C28 FLUORESCENCE IMAGING OF SUBCELLULAR STRUCTURES VIA
MOLECULAR AND NANOSCALE PROBES

Fu-Gen Wu

Southeast University

11:50-12:05 C29 MAKING AN IMPACT THROUGH PUBLISHING: EDITOR TIPS FROM
ANALYST AND THE ROYAL SOCIETY OF CHEMISTRY

Jeanne Andres

Royal Society of Chemistry

12:05-13:30

Lunch

Date: October 26, 2019 PM

Chairman: Xi Chen \ Xiandeng Hou

13:30-13:55 C30 MOBILE ELECTRONICS AS QUANTITATIVE POINT-OF-CARE
DIAGNOSTIC TOOLS: FROM OPTICAL DISC READING TO
SMARTPHONE IMAGING

Hua-Zhong Yu (Keynote)

Simon Fraser University

13:55-14:20 C31 IN SITU ANALYSIS OF NANOASSEMBLIES UNDER DYNAMICS
STATUS

Tie Wang (Keynote)

Institute of Chemistry, Chinese Academy of Sciences

14:20-14:45 C32 WATCHING THE ELECTRON TRANSFER OF SINGLE NANOPARTICLES
OPTICALLY

Wei Wang (Keynote)

Nanjing University

14:45-15:00 C33 SEPARATION-FREE DIFFERENTIATION OF ANALOGUES BY
FLUORESCENT SENSOR ARRAY

Zhiqin Yuan

Beijing University of Chemical Technology

15:00-15:20

Coffee break



Chairman: Wei Wang \ Tie Wang

- | | | |
|-------------|-----|---|
| 15:20-15:45 | C34 | HIGH EFFICIENCY MICROPLASMA SPECTROCHEMISTRY |
| | | Xiandeng Hou (Keynote) |
| | | <i>SiChuan University</i> |
| 15:45-16:10 | C35 | WAVELENGTH-SHIFT BASED COLORIMETRIC SENSING USING CSPBBR3 PEROVSKITE NANOCRYSTALS |
| | | Xi Chen (Keynote) |
| | | <i>Xiamen University</i> |
| 16:10-16:25 | C36 | INTEGRATED SMARTPHONE-APP-CHIP SYSTEM FOR ON-SITE PPB-LEVEL COLORIMETRIC QUANTITATION OF AFLATOXINS |
| | | Xiaochun Li |
| | | <i>Taiyuan University of Technology</i> |
| 16:25-16:40 | C37 | DEVELOPMENT OF PHOTOLUMINESCENCE AND ELECTROCHEMILUMINESCENCE DUAL-SIGNALING PROBES BASED-ON TRANSITION METAL COMPLEXES |
| | | Wenzhu Zhang |
| | | <i>Dalian University of Technology</i> |
| 16:40-16:55 | C38 | TEMPORAL AND SPATIAL DNA IN ANALYTICAL CHEMISTRY |
| | | Xin Su |
| | | <i>Beijing University of Chemical Technology</i> |
| 16:55-17:10 | C39 | SERS ANALYSIS BASED ON NONMETALLIC COMPOSITE NANOMATERIALS |
| | | Tingting Zheng |
| | | <i>East China Normal University</i> |
| 17:10-17:20 | | Poster Award |

POSTER SESSION

C39 POINT OF CARE TEST BASED ON FLUORESCENT ELECTROSPINNING SENSOR FOR RAPID DETERMINATION OF FREE COPPER(II) IONS

Yu Liang, Chun Mei Li* and Cheng Zhi Huang*

Key Laboratory of Luminescent and Real-Time Analytical Chemistry (Southwest University), Ministry of Education, College of Pharmaceutical Science, Southwest University, Chongqing 400715, China.

E-mail: licm1024@swu.edu.cn, chengzhi@swu.edu.cn

C40 MULTI-FUNCTION $\text{Cu}_{2-\text{XSE}}/\text{Au}$ NANOPARTICLES FOR CANCER CELL TARGETING, IMAGING, AND THERAPY BO KONG^A, JING HANB^C, HONG YAN ZOU^{*A} AND CHENG ZHI HUANG^{*A}

^a Key Laboratory of Luminescent and Real-Time Analytical Chemistry (Southwest University), Ministry of Education, College of Pharmaceutical Science, Southwest University, Chongqing 400715, China. E-mail: zhy2013@swu.edu.cn, chengzhi@swu.edu.cn, Tel: (+86) 23 68254059, Fax: (+86) 23 68367257.

^b Beijing National Laboratory for Molecular Sciences, Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100190, China.

^c University of the Chinese Academy of Sciences, Beijing, 100049, China

C41 BALLPOINT PEN POINT DISCHARGE MICROPLASMA OPTICAL EMISSION SPECTROMETER: THEORETICAL AND EXPERIMENTAL INSIGHT

Liangbo HE¹, Xiandeng HOU^{1,2} and Chengbin ZHENG^{*1}

¹ Key Laboratory of Green Chemistry and Technology, Ministry of Education, College of Chemistry, Sichuan University, Chengdu, Sichuan 610064, China

² Analytical and Test Center, Sichuan University, Chengdu, Sichuan 610064, China

E-mail: abinscu@scu.edu.cn

C42 CONJUGATED CATIONIC POLYMER-DNA NANOCOMPOSITE FOR MULTIPLEX DRUG DELIVERY

Congshan Wang¹, Lidan LI¹, Yingnan DENG¹, Junjie LI¹, Changyuan YU¹, and Xin SU^{1*}

¹ College of Life Science and Technology, Beijing University of Chemical Technology, Beijing 100029, China.

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C43 MULTIPLEXING DETECTION BY POLYMERASE DIRECTED TEMPORAL LABELS

Yingnan DENG¹ Xin SU^{*1}

¹ College of Life Science and Technology, Beijing University of Chemical Technology, Beijing, China 100029

E-mail: xinsu@mail.buct.edu.cn

C44 ENGINEERING HIGH-PERFORMANCE DNA CIRCUITS BY UTILIZING NUCLEASES



Shengnan FU¹, Lidan LI¹, Yingnan DENG¹, Junjie LI¹, Changyuan YU¹, and Xin SU^{1*}

¹ College of Life Science and Technology, Beijing University of Chemical Technology, Beijing 100029, China.

E-mail: xinsu@mail.buct.edu.cn

C45 MICA SURFACE MODIFICATION FOR DNA OBSERVATION

Yunfei TIAN¹, Xiandeng HOU^{*1}

¹ Analytical & Testing Center, Sichuan University, Chengdu, China

E-mail: houxd@scu.edu.cn

C46 A STRATEGY FOR FIELD ANALYSIS OF ARSENIC IN COMPLEX SAMPLES: PORTABLE MNFe₂O₄ MICROMOTORS ASSISTED DIGESTION MARRIED TO DISPOSAL INSTRUMENT-FREE DETECTION

Yijing LUO¹, Xiandeng HOU^{1,2}, Chengbin ZHENG^{*1}

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² Analytical & Testing Center, Sichuan University, Chengdu, Sichuan 610064, China

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C47 TWO-IN-ONE: LANTHANIDE ION-MEDIATED GOLD NANOCUSTER ASSEMBLY WITH BRIGHT EMISSION AND HIGH CATALYTIC ACTIVITY

Mingce Tian, Chao Lu, Zhiqing Yuan^{*}

State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing 100029, China

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C48 VISCOSITY DETERMINATION OF LIQUID-LIQUID SEPARATION DROPLETS OF PGL GRANULES WITH HIGH-SPEED SINGLE-NANOROD ROTATIONAL SENSING

Jianfeng Xue¹ and Yan He¹

¹ Department of Chemistry, Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology (Ministry of Education) Tsinghua University, Beijing 100084, China

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C49 LIGHT INDUCED EVOLUTION OF ANOMOLOUS DIFFUSION IN BACTERIA SWARMING FLUID

Jingjing Feng¹, Xiaodong Wen¹, Yan He^{1*}

¹ Department of Chemistry, Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology (Ministry of Education), Tsinghua University, Beijing, 100084, China

*E-mail: yanhe2021@mail.tsinghua.edu.cn

C50 REALTIME STUDY OF PROTEIN PHASE SEPARATION WITH SPATIOTEMPORAL ANALYSIS OF

SINGLE NANOPARTICLE TRAJECTORIES

Qi Pan¹, Daxiao Sun², Jianfeng Xue¹, Jie Hao¹, Hansen Zhao¹, Xijian Lin¹, Li Yu², and Yan He^{*,1}

¹ Department of Chemistry, Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology (Ministry of Education), Tsinghua University, Beijing 100084, China.

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C51 ELECTRIC FIELD INDUCED CONTROLLABLE DYNAMIC ASSEMBLY OF GOLD COLLOIDS

Qi Pan, Xijian Lin, Hansen Zhao, Yan He^{*}

Department of Chemistry, Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology (Ministry of Education), Tsinghua University, Beijing 100084, China

E-mail: yanhe2021@mail.tsinghua.edu.cn

C52 DUAL-POLARIZATION DARK-FIELD FORCES MICROSCOPY OF MYOCARDIAL CELL BEATING SYNCHRONIZATION

Sheldong Wen, Jingjing Feng and Yan He^{*}

Department of Chemistry, Tsinghua University, Beijing 100084, China

C53 A SENSITIVE SENSING STRATEGY FOR MICRORNA DETECTION BASED ON THE STRAND DISPLACEMENT REACTIONS AND RGB VARIATION OF AUNRS

Hui Hong Yan, Qiang Zhang, Jia Jun Liu, Jian Wang^{*}

Education Ministry Key Laboratory on Luminescence and Real-Time Analysis (Southwest University), College of Pharmaceutical Science, Southwest University, Chongqing 400715, China

C54 STUDY ON THE TRANSMEMBRANE BEHAVIOR OF GOLD NANORODS MODIFIED BY DIFFERENT ANTIBODIES USING SPT TECHNIQUE

Feng Ge, Yan He

Department of Chemistry, Tsinghua University, Beijing 100084, China

C55 IN SITU DETECTION OF PROTEIN CORONA ON SINGLE PARTICLE BY ROTATIONAL DIFFUSIVITY

Xijian Lin, Qi Pan and Yan He^{*}

Department of Chemistry, Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology (Ministry of Education), Tsinghua University, Beijing 100084, China. Email: yanhe2021@mail.tsinghua.edu.cn

C56 DIRECT OBSERVATION OF SPATIOTEMPORAL HETEROGENEOUS GELATION BY ROTATIONAL TRACKING OF SINGLE ANISOTROPIC NANOPROBE

Hua Sun^{1,2}, Zonghua Wang^{*,2}, Yan He^{*,1}

¹ Department of Chemistry, Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology (Ministry

of Education), Tsinghua University, Beijing, 100084, China

² College of Chemistry and Chemical Engineering, Shandong Sino-Japanese Center for Collaborative Research of Carbon Nanomaterials, Qingdao University, Qingdao, 266071, China

C57 FLUORESCENT GOLD NANOCUSTER-BASED SENSOR ARRAY FOR NITROPHENOL ISOMER DISCRIMINATION VIA AN INTEGRATION OF HOST-GUEST INTERACTION AND INNER FILTER EFFECT

Hongwei Yang, Ye sun, Zhiqin Yuan* and Chao Lu

State key Laboratory of Chemical Resource Engineering, Beijing University of Chemistry Technology, Beijing 100029, China

C58 ENGINEERING LIQUID CRYSTAL-BASED MATERIALS FOR SINGLE-CELL ANALYSIS

Mashooq KHAN¹ and Jin-Ming LIN^{1*}

¹ Beijing Key Laboratory of Microanalytical Methods and Instrumentation, Department of Chemistry, Tsinghua University, Beijing, 100084, China

C59 A RAPID SPECTROSCOPIC METHOD TO EVALUATE THIN SURFACE LAYER MASS OF RO MEMBRANE

Dr. Yun Peng

Water Technology center of SUEZ Water Technologies and Solutions, Shanghai, China

C60 IN SITU MONITORING OF FLUID SHEAR STRESS ENHANCED ADHERENCE OF BACTERIA TO CANCER CELLS ON MICROFLUIDIC CHIP

Wanling Zhang, Jin-Ming Lin *

Beijing Key Laboratory of Microanalytical Methods and Instrumentation, MOE Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology, Tsinghua University, Beijing 100084, China

C61 CARBON DOTS ENHANCED CHEMILUMINESCENCE OF FENTON SYSTEM: ENHANCEMENT, MECHANISM AND APPLICATIONS

Syed Niaz Ali Shah, Jin-Ming Lin*

Beijing Key Laboratory of Microanalysis and Instrumentation, Department of Chemistry, Tsinghua University, Beijing 100084, China

C62 ONLINE DETECTION OF VEGF VIA ROLLING CIRCLE AMPLIFICATION ON AN OPEN-SPACE MICROFLUIDIC CHIP WITH FLUID WALLS

Shuo Feng, Jin-Ming Lin*

Department of Chemistry, Beijing Key Laboratory of Microanalytical Methods and Instrumentation, MOE Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology, Tsinghua University, Beijing 100084, China

C63 IN SITU ADHESION ANALYSIS OF LIVING SINGLE CELL USING OPEN MICROFLUIDICS

Sifeng MAO¹, and Jin-Ming LIN^{*1}

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C64 POINT-OF-CARE RAPID VISUALIZATION OF ANTHRAX BIOMARKER USING EU3+-FUNCTIONALIZED CARBON NANODOT PROBE

He Zhou¹, Chao Lu², Zhiqing Yuan*

State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing 100029, China

C65 FAST DETERMINATION OF PEROXYMONOSULFATE BY FLOW INJECTION CHEMILUMINESCENCE USING TB(III)-LIGAND IN MICELLE MEDIA

Man Tang¹, Bo-Tao Zhang¹, Yanguo Teng^{1,2}, Meilin Liu³, Yang Zhang¹

¹ College of Water Sciences, Beijing Normal University, Beijing 100875, China

² Engineering Research Center of Ministry of Education on Groundwater Pollution Control and Remediation, Beijing 100875, China

³ National Engineering Laboratory of Biohydrometallurgy, General Research Institute for Nonferrous Metals, Beijing 100088, China

C66 NATURAL AMINO ACIDS-RESPONSIVE SUPRAMOLECULAR FLUORESCENT SENSOR ARRAYS CONSTRUCTED BASED ON HOST-GUEST SYSTEM

Yuxiao Mei, Yang Tian*

Department of Chemistry, School of Chemistry and Molecular Engineering, East China Normal University, Shanghai 200241, China.

Correspondence: ytian@chem.ecnu.edu.cn

C67 SERS SENSING STRATEGY BASED ON SYNTHESIS OF DOPAMINE-QUINONE AT PHYSIOLOGICAL PH BY SPATIAL CONFINEMENT OF LITHOSTRATIGRAPHIC AG@NI-MOF STRUCTURE

Zongchao Yang, Tao Liu, Limin Zhang*, Yang Tian

School of Chemistry and Molecular Engineering, East China Normal University, Shanghai 200241, China.

C68 TRACKING LYSOSOMAL PH AND CALCIUM DURING AUTOPHAGY PROCESSING A DNA-BASED FLIM REPORTER

Zhonghui Zhang, Zhichao Liu, Yang Tian*

Department of Chemistry, School of Chemistry and Molecular Engineering, East China Normal University, Shanghai 200241, China.

C69 IN SITU RAMAN SPECTROSCOPIC STUDY AND ADSORPTION ENGINEERING FOR COOH* INTERMEDIATES DURING CO₂ELECTROREDUCTION REACTION

Hao Yang¹, Yu-wen Hu², Yexiang Tong^{*2}, Jian Chen^{*1,3}



¹ School of Materials Science and Engineering, Sun Yat-sen University, Guangzhou 510275

² School of Chemistry, Sun Yat-sen University, Guangzhou 510275

³ Instrumental analysis and Research center, Guangzhou 510275

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C70 RAPID SAMPLE ASSESSMENT AND ASSISTED METHOD DEVELOPMENT FOR ICP-OES USING THE AGILENT INTELLIQUANT SEMI-QUANTITATION TOOL

Dan Mccarthy¹

¹ Agilent Technologies Australia, VIC, AU

C71 A NOVEL APPROACH OF SUPERIOR OPTICAL SYSTEM DESIGN FOR INDUCTIVELY COUPLED PLASMA OPTICAL EMISSION SPECTROSCOPY (ICP-OES)

Mark Junker¹, David Brooks¹, Nahid Chalyavi¹

¹ Agilent Technologies Australia, VIC, AU

C72 ULTRAFast SEMI-QUANT DETERMINATION OF 8 BIO-AVAILABLE ELEMENTS-EXTRACTION

Michael Mavrogenis¹, Neli Drvodelic¹

¹ Agilent Technologies Australia, VIC, AU

C73 DETERMINATION OF 22 ELEMENTS IN SOLID WASTE

Peter Riles¹, Neli Drvodelic¹

¹ Agilent Technologies Australia, VIC, AU

C74 G-QUADRUPLEX FOR IMPROVING THE SENSITIVITY OF Cu^{2+} CATALYZED OXIDATION OF TMB BY H_2O_2 AND COLORIMETRIC H_2S ASSAY

Yu Ma^a, Fenghua Geng^b, Yongxiang Wang^{b,c}, Maotian Xu^{a,b}, Congying Shao^c, Peng Qu^{a,b}, Yintang Zhang^{a,b}, Baoxian Yea

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^c College of Chemistry and Material Science, Huaibei Normal University, Huaibei, 235000, China

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C75 A NEW STRATEGY FOR CONSTRUCTING FLUORESCENCE TURN-ON APTASENSOR BASED ON G-RICH DNA FUNCTIONALIZED SPLIT ATP APTAMER

Dandan Wang¹, Fenghua Geng², Yongxiang Wang^{2,3*}, Ma Yu⁴, Guixin Li¹, Shao Congying³, Maotian Xu^{2,4}

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³ College of Chemistry and Material Science, Huaibei Normal University, Huaibei

⁴ School of Chemistry and Chemical Engineering, Zhengzhou University, Zhengzhou

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C76 DIRECT ANALYSIS OF TRACE CADMIUM IN DIRECT ANALYSIS OF TRACE CADMIUM IN SOLID AND LIQUID SAMPLES

Li Feng¹ Jianwen Luo^{1,2}

¹ Changsha Kaiyuan Hongsheng Technology Co., Ltd.

² Changsha Kaiyuan Instruments Co., Ltd.



SCHEDULE OF SESSIONS

D. CHROMATOGRAPHY

CHAIRMAN: Prof. Lihua Zhang

ORAL LECTURES

Time: Oct. 25, 2019 AM(Friday)

Location: Room 311A, China National Convention Center, Beijing

Chairman: Prof. Gérard Hopfgartner and Prof. Antje J. Baeumner

09:00-09:20 D2 MODIFIER ASSISTED DIFFERENTIAL MOBILITY SPECTROMETRY FOR HIGH THROUGHPUT QUANTIFICATION AND MULTIDIMENSIONAL ANALYSIS

Gérard Hopfgartner (Keynote)

University of Geneva, Switzerland

09:20-09:40 D3 NANOMATERIALS FOR A LAB-ON-A-CHIP INCLUDING SEPARATION, MIXING AND DETECTION

Antje J. Baeumner (Keynote)

University of Regensburg, Germany

09:40-10:00 D4 ASSESSING VITAMIN D STATUS – ANALYTICAL CHALLENGES AND ACCOMPLISHMENTS

Stephen A. Wise (Keynote)

National Institutes of Health, USA

10:00-10:20 D5 INTRODUCTION AND CASE SHARING OF INTELLIGENT DATA ANALYSIS METHOD FOR LIQUID CHROMATOGRAPHY

Hongrui Yin

SHIMADZU, China, Co., Ltd.

Chairman: Prof. Adam T. Woolley and Prof. Steffen Pauly

10:30-10:50 D6 3D PRINTED MICROFLUIDIC SYSTEMS FOR BIOMARKER ANALYSIS

Adam T. Woolley (Keynote)

Brigham Young University, USA

10:50-11:10 D7 PUBLISHING ANALYTICAL SCIENCE WITH SPRINGER NATURE

Steffen Pauly (Keynote)

Springer Nature, Germany

11:10-12:00 ABCS OF PUBLISHING: TIPS FOR GETTING YOUR MANUSCRIPT ACCEPTED

Adam T. Woolley (Keynote)

Brigham Young University, USA

Time: Oct. 25, 2019 PM (Friday)

Location: Room 311A, China National Convention Center, Beijing

Chairman: Prof. Gongke Li and Prof. Yi Chen

13:30-13:50 D8 SAMPLE PREPARATION METHODS BASED ON MICROPOROUS ORGANIC POLYMERS IN CHROMATOGRAPHIC ANALYSIS

Gongke Li (Keynote)

Sun Yat-sen University, China

13:50-14:10 D9 HEMOGLOBIN CE FOR SCREENING OF ANEMIA

Yi Chen (Keynote)

Institute of Chemistry, Chinese Academy of Sciences, China

14:10-14:30 D10 MULTIPLE MODES CAPILLARY ELECTROPHORESIS: THE EFFICIENT TECHNOLOGY FOR APTAMERS SELECTION

Feng Qu (Keynote)

Beijing Institute of Technology, China

14:30-14:50 D11 MOLECULAR EVOLUTION FOR LIQUID BIOPSY

Chaoyong James YANG (Keynote)

Xiamen University, China

14:50-15:10 D12 STIMULI-RESPONSIVE POLYMER ENZYME REACTORS FOR SCREENING DAAO INHIBITORS WITH CHIRAL CAPILLARY ELECTROPHORESIS TECHNIQUE

Li Qi (Keynote)

Institute of Chemistry, Chinese Academy of Sciences, China

15:10-15:30 D13 IMMOBILIZED GPCR: A RELIABLE PLATFORM FOR DRUGGABILITY EVALUATION OF BIOACTIVE COMPOUNDS THROUGH BINDING INTERACTION ANALYSIS

Xinfeng Zhao (Invited)

Northwest University, China

15:30-15:50 D14 HIGHLY EFFICIENT AUTOMATED SAMPLE PREPARATION SOLUTIONS FOR GC/MS AND LC/MS IN FOOD SAFETY FIELD



Yunyun Nie

GERSTEL (Shanghai) Co. Ltd

Chairman: Prof. Huwei Liu and Prof. Guowang Xu

16:00-16:20 D15 A NOVEL ONLINE SFC/HPLC TWO DIMENSIONAL METHOD FOR LIPID PROFILING

Huwei Liu (Keynote)

Peking University, China

16:20-16:40 D16 A NOVEL ANALYTICAL METHOD FOR QUANTITATIVE ANALYSIS OF OVER 1,000 METABOLITES BASED ON TWO-DIMENSIONAL LC-MS

Guowang Xu (Keynote)

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

16:40-17:00 D17 ULTRASENSITIVE DETERMINATION OF MODIFIED NUCLEOTIDES BY SHEATHLESS INTERFACED CAPILLARY ELECTROPHORESIS-TANDEM MASS SPECTROMETRY

Xinxiang Zhang (Keynote)

Peking University, China

17:00-17:20 D18 PREPARATION AND CHARACTERIZATION OF PEPTIDE-GUIDED CONJUGATE FOR IN VIVO IMAGING AND TUMOR INHIBITION

Rui Zhao (Keynote)

Institute of Chemistry, Chinese Academy of Sciences, China

17:20-17:40 D19 ISOLATION AND PURIFICATION OF ALKALOIDS FROM FRUITS OF MACLEAYA CORATA BY IONIC-LIQUID-MODIFIED HSCCC

Yun Wei (Keynote)

Beijing University of Chemical Technology, China

17:40-18:00 D20 CONSTANT PERFORMANCE HPLC DEGASSING

Saba Jazeeli

IDEX Health & Science

Time: Oct. 26, 2019 AM (Saturday)

Location: Room 311A, China National Convention Center, Beijing

Chairman: Prof. Lingjun Li and Prof. Weiguo Andy Tao

09:00-09:20 D21 DEVELOPING IMPROVED STRATEGIES FOR SELECTIVE ENRICHMENT AND LARGE-SCALE PROFILING OF PEPTIDES WITH MULTIPLE PTMS

Lingjun Li (Keynote)*University of Wisconsin-Madison, USA*

09:20-09:40	D22	EXTRACELLULAR VESICLE-BASED DISEASE BIOMARKERS: PROMISE AND CHALLENGES
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Weiguo Andy Tao (Keynote)*Purdue University, USA*

09:40-10:00	D23	PROFILING OF DNA MODIFICATIONS FOR EPIGENETICS
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Hailin Wang (Keynote)*Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China*

10:00-10:20	D24	SYNTHESIS AND PURIFICATION OF FUNCTIONAL PROTEIN-DNA CONJUGATES WITH 1:1 STOICHIOMETRY
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Xiaowen Yan (Keynote)*Xiamen University, China***Chairman: Prof. Myeong Hee Moon and Prof. Yongchien Ling**

10:30-10:50	D25	ISOTOPE-LABELED METHYLATION FOR THE RESOLUTION ENHANCEMENT AND RELATIVE QUANTIFICATION OF POLYGLYCEROPHOSPHOLIPIDS BY NUHPLC-ESI-MS/MS
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Myeong Hee Moon (Keynote)*Yonsei University, Korea*

10:50-11:10	D26	ANALYTICAL SEPARATION AND CHARACTERIZATION OF CARBON QUANTUM DOTS
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Yongchien Ling (Keynote)*National Tsing Hua University*

11:10-11:30	D27	APPLICATION OF NANO-ELECTRODES IN ANALYTICAL CHEMISTRY
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Jingyuan Chen (Keynote)*University of Fukui, Japan*

11:30-11:50	D28	AGILENT INTELLIGENT GC - 8890 GC
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Jinqiang Zhang*Agilent Technology***Time: Oct. 26, 2019 PM (Saturday)**



Location: Room 311A, China National Convention Center, Beijing

Chairman: Prof. Xiayan Wang and Prof. Yong Wang

13:30-13:50 D29 MACHINE VISION ASSISTED FOCUSING FOR HIGHLY SENSITIVE LASER-INDUCED FLUORESCENCE DETECTION OF NANOCAPILLARIES

Xiayan Wang (Keynote)

Beijing University of Technology, China

13:50-14:10 D30 FUNCTIONALITY TUNING OF STRUCTURALLY WELL-DEFINED CYCLODEXTRIN CHIRAL SEPARATION PHASES

Yong Wang (Keynote)

Tianjin University, China

14:10-14:30 D31 PREPARATION OF MAGNETIC COVALENT ORGANIC POLYMER AND MESOPOROUS CARBON

Chaozhan Wang (Invited)

Northwest University, China

14:30-14:45 D32 INTEGRATION OF MOLECULAR RECOGNITION WITH TOPOLOGICAL INTERACTIONS FOR SEPARATING CIRCULATING TUMOR CELLS FROM CLINICAL SAMPLES

Yanyan Huang (Invited)

Institute of Chemistry, Chinese Academy of Sciences, China

14:45-15:00 D33 NEW FRAGMENT ION-BASED QUANTITATION METHODS FOR ACCURATE PROTEOME ANALYSIS

Jianhui Liu

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

15:00-15:15 D34 DETERMINATION OF SALIVARY AND SERUM GLYCATED ALBUMIN BY AGAROSE-BORONIC ACID FUNCTIONALIZED CAPILLARY ELECTROPHORESIS

Ghulam Murtaza

Beijing Institute of Technology, China

15:15-

Closing Remarks

POSTER SESSION

- D35 SEPARATION COUPLED WITH ALGORITHM ENABLED FAST DETERMINATION OF INTER & INTRA CROSS-LINKING FROM SINGLE PROTEIN CX-MS**
Weijie Zhang, Yichu Shan, Lihua Zhang, Yukui Zhang
Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China
- D36 C1 FUNCTIONALIZED ETHANE-BRIDGED HYBRID MONOLITHS WITH LARGE MESOPORES FOR INTACT PROTEIN SEPARATION**
Chao Wang, Yu Liang, Zhen Liang, Baofeng Zhao, Lihua Zhang, Yukui Zhang
Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China
- D37 IN SITU ANALYSIS OF PROTEIN CONFORMATIONS AND INTERACTIONS VIA OIL-IN-POLYMER NANOPARTICLES DELIVERING CROSS-LINKER INTO CELLS**
Yuwan Chen, Kaiguang Yang, Wen Zhou, Lihua Zhang, Yukui Zhang
Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China
- D38 A NEW IONIC LIQUID-BASED SOLVENT SYSTEM FOR MEMBRANE PROTEIN COMPLEXES EXTRACTION**
Hongwei Chu, Baofeng Zhao, Lihua Zhang, Yukui Zhang
Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China
- D39 FULLY AUTOMATED PLASMA PROTEOMIC SAMPLE TREATMENT SYSTEM FOR HIGH THROUGHPUT QUANTIFICATION OF MIDDLE AND LOW-ABUNDANCE PROTEINS IN HUMAN PLASMA**
Yilan Li, Huiming Yuan, Zhongpeng Dai, Xiaodan Zhang, Baofeng Zhao, Lihua Zhang, Yukui Zhang
Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China
- D40 D-2-ALLYLGLYCINE EMBEDDED IMIDAZOLIUM-BRIDGED HYBRID MONOLITHIC COLUMN FOR HIGH-EFFICIENCY HPLC SEPARATION**
Rui Chen, Xuyang Yue, Yufeng Zhou, **Xiaoqiang Qiao**
Hebei University, China
- D41 INKJET PRINTING BASED SEPARATION OF MAMMALIAN CELLS BY CAPILLARY ELECTROPHORESIS**
Weifei Zhang, Nan Li, Jinming Lin
Tsinghua University, China
- D42 ANALYSIS AND SEPARATION OF KYNURENINE ENANTIOMERS BY CAPILLARY ELECTROPHORESIS USING CYCLODEXTRINS**



Aysha Sarfraz Rizvi, Ghulam Murtaza, Muhammad Irfan, Feng Qu

Beijing Institute of Technology, China

D43 APTAMER-BASED DETECTION AND QUANTITATIVE ANALYSIS OF CD+2 USING AFFINITY PROBE CAPILLARY ELECTROPHORESIS

Muhammad Irfan, Ghulam Murtaza, Rizwan Ullah Khan, Feng Qu

Beijing Institute of Technology, China

D44 INTERACTION EVALUATION BETWEEN APTAMERS AND PROTEINS THROUGH MULTIPLE METHODS

Yi Zhao, Feng Qu

Beijing Institute of Technology, China

D45 SCREENING OF APTAMER FOR REC A PROTEIN

Shimiao Han, Ge Yang, Feng Qu

Beijing Institute of Technology, China

D46 SCREENING OF APTAMER INHIBITOR FOR SPYCAS9 BY CAPILLARY ELECTROPHORESIS

Huimin Wang, Ge Yang, Feng Qu

Beijing Institute of Technology, China

D47 INVESTIGATION OF LIBRARY INPUT ON APTAMERS SELECTION EFFICIENCY USING CAPILLARY ELECTROPHORESIS

Linsen Li, Chao Zhu, Feng Qu

Beijing Institute of Technology, China

D48 ONLINE PREDATORY CAPILLARY ELECTROPHORESIS FOR APTAMER SELECTION OF VITAMIN B12

Zijian Wang, Chao Zhu, Ge Yang, Yi Zhao, Feng Qu

Beijing Institute of Technology, China

D49 SINGLE ROUND SELCTION OF ACETYLCHOLINESTERASE APTAMERS BY CAPILLARY ELECTROPHORESIS

Liping Zhao, Ge Yang, Feng Qu

Beijing Institute of Technology, China

D50 PEPTIDES FUNCTIONALIZED NANOFIBERS FOR SPECIFIC ISOLATION AND RELEASE OF CIRCULATING TUMOR CELLS

Huifei Zhong, Yanyan Huang, Yulong Jin, Rui Zhao

Institute of Chemistry, Chinese Academy of Science, China

D51 SIMULTANEOUS PURIFICATION AND REVERSIBLE IMMOBILIZATION OF A1A-AR BY ULTRA HIGH AFFINITY BETWEEN IM7 AND CE7

Xinyi Yuan, Gangjun Feng, Juan Gao, Xinfeng Zhao

Northwest University, China

D52 PREPARATION OF MAGNETIC ADSORBENT GRAFTED WITH MOLECULAR BOTTLE BRUSH AND THEIR APPLICATIONS

Xiaoxia Zhang, Chunyan Li, Yinmao Wei, Chaozhan Wang

Northwest University, China

D53 MAGNETIC NAPHTHALENE-BASED POLYIMIDE POLYMER FOR EXTRACTION OF SUDAN DYES IN CHILI SAUCE

Jiaming Cheng, Kai Hu, Yue Mou, Shusheng Zhang

Henan University of Chinese Medicine, China

D54 DETECTION OF ANTI-HIV NNRTIS DRUG AND ITS METABOLITES

Haoran Yang, Liuxi Chu, Yan Wu, Wei Wang, Huihua Deng

Southeast University, China

D55 EXPLORATORY GC/MS-BASED METABOLOMICS STUDY OF COMMERCIAL VINEGARS

S.H. Tseng, C.W. Wu, G.H. Li, G.Y. Chen, W.Y. Chuang and Y.C. Ling

National Tsing Hua University

D56 IMPUTING METABOLOMICS DATA BASED ON THE STABILITY OF THE NEAREST NEIGHBORS

Xiao Luo, Chao Li, Xiaohui Lin

Dalian University of Technology, Dalian, China

D57 BENEFIT OF A SMALLER AND FASTER SWITCHING UHPLC VALVE

Quan Liu

IDEX Health & Science

D58 DETERMINATION OF QUINOLONE RESIDUES IN MILK BY HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

Yonglu Li, Jing Han, Kun Hou

Hitachi instruments (Dalian) Co. Ltd.

D59 QUANTITATIVE ANALYSIS OF AZODICARBONAMIDE IN HDPE PELLETS AND EXTRUDED CABLES BY HPLC-UV ABSORBANCE

Sensen Shen, Cuilan Chang, Chenbo Shen, Haiting Shi, Harvey Xu, Shawn Miao

Dow Chemical (China) Investment Co., Ltd.



SCHEDULE OF SESSIONS

E. MAGNETIC RESONANCE

CHAIRMAN: Prof. Maili LIU

ORAL LECTURES

Time: Oct. 25, 2019 (AM)

Location: 306A, China National Convention Center, Beijing

8:25-8:30

Opening Speech by Prof. Maili LIU

Chairman: Prof. Shenlin WANG

8:30-8:55

E2

DYNAMIC PROTEIN-PROTEIN INTERACTIONS AT THE MEMBRANE
INTERFACE BY NMR

Ayyalusamy (Rams) Ramamoorthy (Keynote)

University of Michigan

8:55-9:20

E3

INHIBITION OF AMYLOID SELF-ASSEMBLY BY LIQUID-LIQUID PHASE
SEPARATION

Bernd Reif (Keynote)

Helmholtz-Zentrum München (HMGU)

9:20-9:45

E4

THE POWER OF PROTON-DETECTED SOLID-STATE NMR METHODS:
STRUCTURAL STUDIES OF NUCLEOSOMES AND CYTOSKELETON PROTEINS

ShengQi XIANG (Keynote)

University of Science and Technology of China

9:45-10:05

E20

NOVEL SSNMR-BASED METHODOLOGY TOWARDS RNA STRUCTURE STUDY

Sha ZHAO

Peking University

10:05-10:25

Coffee Break

Chairman: Prof. Guangjin HOU

10:25-10:50

E5

TO BE DECIDED

Hartmut Oschkinat (Keynote)

Free University of Berlin

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|-------------|-----|---|
| 10:50-11:15 | E6 | SOLID-STATE NMR STUDIES OF SEVEN-TRANSMEMBRANE ION-PUMPING RHODOPSIN AND SELF-ASSEMBLED PEPTIDE |
| | | Izuru Kawamura (Keynote) |
| | | <i>Yokohama National University</i> |
| 11:15-11:40 | E7 | PROGRESS OF THE STRUCTURAL CHARACTERIZATION ON A EUKARYOTIC RHODOPSIN BY SOLID-STATE NMR |
| | | Shenlin WANG (Keynote) |
| | | <i>Peking University</i> |
| 11:40-12:00 | E21 | EXPLORING (MEMBRANE) PROTEIN STRUCTURES BY DNP-ENHANCED METHYL SSNMR SPECTROSCOPY |
| | | Jiafei MAO |
| | | <i>Goethe University of Frankfurt am Main</i> |

Time: Oct. 25, 2019 PM

Location: 306A, China National Convention Center, Beijing

Chairman: Prof. Conggang LI

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| 14:00-14:25 | E8 | A RAPID QUANTITATIVE ¹ H NMR METHOD FOR LARGE COHORT METABOLIC FLUXOMICS WITH UNAMBIGUOUS IDENTIFICATION OF ALL ¹³ C-LABELED METABOLITES AND LABELING CITES |
| | | Huiru TANG (Keynote) |
| | | <i>Zhongshan Hospital & School of Life Sciences, Fudan University</i> |
| 14:25-14:50 | E9 | NMR-BASED METABONOMICS IN HBV INFECTION |
| | | Yulan Wang (Keynote) |
| | | <i>Nanyang Technological University</i> |
| 14:50-15:15 | E10 | NMR METHODOLOGIES AND WATER COMPATIBLE WEAK CHIRAL ALIGNING MEDIA FOR ENANTIOMERIC DISCRIMINATION |
| | | N. Suryaprakash (Keynote) |
| | | <i>NMR Research Centre, Indian Institute of Science</i> |
| 15:15-15:40 | E11 | RECENT ADVANCED APPROACHES AND APPLICATIONS OF QNMR |
| | | Ting HUANG (Keynote) |
| | | <i>National Institute of Metrology</i> |
| 15:40-16:00 | | Coffee Break |



Chairman: Prof. ShengQi XIANG

16:00-16:25 E12 SIZE AND MORPHOLOGY CONTROL OF BONE-RELEVANT HYDROXYAPATITE
NANOCRYSTALS AND CHARACTERIZATION WITH SOLID NMR, XRD, IR, SEM

Shangwu DING (Keynote)

National Sun Yat-sen University

16:25-16:50 E13 HETERONUCLEAR DIPOLAR RECOUPLING METHODOLOGY DEVELOPMENT
AND APPLICATION IN MAS NMR SPECTROSCOPY

Guangjin HOU (Keynote)

Dalian Institute of Chemical Physics

16:50-17:10 E22 MOLECULAR CHARACTERIZATION OF PHARMACEUTICAL PRODUCTS BY
ULTRAFAST MAGIC-ANGLE SPINNING NMR

Xingyu LU

Westlake University

17:10-17:30 E23 NOVEL SOLID-STATE NMR METHODS FOR STRUCTURE AND
DYNAMIC INFORMATION IN BIOSOLIDS

Kai XUE

Max-Planck Institute for Biophysical Chemistry

Time: Oct. 26, 2019 (AM)

Location: 306A, China National Convention Center, Beijing

Chairman: Prof. Chunyang CAO

8:30-8:55 E14 STRUCTURAL AND FUNCTIONAL STUDIES OF THE PHOSPHORYLATED
SYNUCLEIN IN VITRO AND IN CELLS BY NMR SPECTROSCOPY

Conggang LI (Keynote)

Wuhan Institute of Physics and Mathematics

8:55-9:20 E15 3D STRUCTURAL DETERMINATION OF UNSTABLE ENZYMATIC
INTERMEDIATE COMPLEX VIA PARAMAGNETIC TAGGING

XunCheng SU (Keynote)

Nankai University

9:20-9:40 E24 UNDERSTANDING THE MOLECULAR BASIS OF EPIGENETIC MECHANISMS
BY NMR

Yi ZHANG

University of Colorado School of Medicine

9:40-10:00 E25 MONITORING OF CHOLINE PHOSPHORYLATION IN INTACT CELLS BY NMR

Xin CHAI

Wuhan Institute of Physics and Mathematics

10:00-10:20

Coffee Break

Chairman: Prof. Qi ZHANG

10:20-10:45 E16 CHARACTERIZATION OF RESIDUE SPECIFIC PROTEIN CONFORMATIONAL DYNAMICS IN CELLS

Lishan YAO (Keynote)

Qingdao Institute of Bioenergy and Bioprocess Technology

10:45-11:10 E17 INTRINSIC SLOW DYNAMICS OF RAS PROBED BY RELAXATION-BASED NMR SPECTROSCOPY

Dong LONG (Keynote)

University of Science and Technology of China

11:10-11:30 E26 DNA BINDING MECHANISM OF THE C-CLAMP TYPE ZINC FINGER PROTEINS

Bo DUAN

Peking University

Time: Oct. 26, 2019 PM

Location: 306A, China National Convention Center, Beijing

Chairman: Prof. Lishan YAO

14:00-14:25 E18 VISUALIZING TRANSIENT REGULATORY STATES IN RNA RIBOSWITCHES

Qi ZHANG (Keynote)

University of North Carolina at Chapel Hill

14:25-14:50 E19 MECHANISTIC STUDIES ON HUMAN APOBEC3 FAMILY MEMBERS CATALYZED DEAMINATION OF CYTIDINES IN DNA BY NUCLEAR MAGNETIC RESONANCE

Chunyang CAO (Keynote)

Shanghai Institute of Organic Chemistry

14:50-15:10 E27 THE CONFORMATION OF CYTOCHROME C - A ROS SCAVENGER IN MITOCHONDRIA

Jianhua ZHAN

Wuhan Institute of Physics and Mathematics

POSTER SESSION

E28 OPTIMIZATION FOR QUANTITATIVE ¹³C-NMR EXPERIMENT BY GENETIC ALGORITHM

LINHONG SONG^{1,2}, JIANNAN WANG^{1,2}, XIN CHAI^{1,2}, QINJUN ZHU², XU ZHANG², BIN JIANG² AND MAILI LIU²

¹ State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Center for Magnetic Resonance, Wuhan Institute of Physics and Mathematics, the Chinese Academy of Sciences, Wuhan 430071, China;

² University of Chinese Academy of Sciences, Beijing 100049, China

E-mail: songlh@wipm.ac.cn

E29 SENSITIVE ENHANCEMENT OF IN-CELL NMR SPECTROSCOPY OF CYTOCHROME C BY CHEMICALLY REDUCTIVE METHYLATION

Xiong Xiao^{1,2}, Jianhau Zhan^{1,2}, Qianwen Wang^{1,2}, Beibei Zhao^{1,2}, Qinjun Zhu¹, Xu Zhang^{1*}, Maili Liu^{1*}

¹ State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Center for Magnetic Resonance, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan 430071, China.

² Graduate University of Chinese Academy of Sciences, Beijing 100049, China.

E-mail: zhangxu@wipm.ac.cn; ml.liu@wipm.ac.cn.

E30 REAL-T1, AN EFFECTIVE APPROACH FOR SUPPRESSING T1-NOISE IN NMR SPECTROSCOPY BASED ON RESAMPLING ALGORITHM

Linhong Song¹, Jiannan Wang¹, Xu Zhang¹, Conggang Li¹, Xin Zhou¹, Daiwen Yang², Bin Jiang¹, Maili Liu^{1*}

¹ State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, 430071, China

² Department of Biological Sciences, National University of Singapore, 14 Science Drive 4, Singapore 117543, Singapore

E-mail: ml.liu@wipm.ac.cn

E31 THE WHOLE CELL SSNMR STUDY OF THE INTERACTION MECHANISM BETWEEN ANTIMICROBIAL PEPTIDE LAH4 AND GRAM-NEGATIVE MEMBRANE GUIDES THE DESIGN OF MORE EFFECTIVE DRUGS AGAINST BACTERIAL RESISTANCE

Rong Han^{1,2}, Yina Sheng³, Xingrong Zhao³, Jiansen Hu, Zhixin Zhang, Huanqin Dai, Guoquan Liu³, Shenlin Wang^{1,2,*}

¹ Beijing NMR center, Peking University, China

² College of Chemistry and Molecular Engineering, Peking University, China

³ State Key Laboratory of Natural and Biomimetic Drugs, School of Pharmaceutical Sciences, Peking University, 38 Xueyuan Road, Beijing 100191, China

E32 MECHANISM OF MEMBRANE FUSION INDUCED BY PLANT SPECIFIC INSERT

Jenny (Jingxin) Tian,^{1,2,†} Xiaoli Zhao,^{1,†} Hua Yu,^{3,4,†} Brian C. Bryksa,² John H. Dupuis,² Xiuyuan Ou,⁵ Zhaohui Qian,⁵ Chen Song,^{3,4,*} Shenlin Wang,^{1,6,*} and Rickey Y. Yada^{2,*}

¹ College of chemistry and molecular engineering and Beijing NMR center, Peking University, Beijing, 100871, China. e-mail: wangshenlin@pku.edu.cn

² Food, Nutrition, and Health Program, Faculty of Land and Food Systems, the University of British Columbia, Vancouver, British Columbia, Canada; e-mail: r.yada@ubc.ca

³ Center for Quantitative Biology, Academy for Advanced Interdisciplinary Studies, Peking University, Beijing 100871, China. e-mail: c.song@pku.edu.cn

⁴ Peking-Tsinghua Center for Life Sciences, Academy for Advanced Interdisciplinary Studies, Peking University, Beijing 100871, China

⁵ MOH Key Laboratory, Institute of Pathogen Biology, Chinese Academy of Medical Science, Beijing, China.

⁶ Beijing National Laboratory for Molecular Sciences, Beijing, China

E-mail: 1801110393@pku.edu.cn



SCHEDULE OF SESSIONS

F. Electroanalytical Chemistry

CHAIRMAN: Prof. Jinghong Li

ORAL LECTURES

Time: Oct. 25, 2019 AM (Friday)

Location: Room 306B, China National Convention Center, Beijing

Chairmen: Prof. Taek Dong CHUNG and Prof. Nongjian TAO

8:25-8:30 / **Opening Remarks by Xiurong YANG**

8:30-8:55 F2 A STUDY OF NANOZYMES

Erkang WANG (Keynote)

State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Jilin 130022, Changchun, China

8:55-9:20 F3 A MINIATURE TEST CELL FOR HYDROGEN FUEL CELLS AND RELATED POLYMER ELECTROLYTE MEMBRANE (PEM) DEVICES

Stephen CREAGER (Keynote)

Department of Chemistry, Clemson University, Clemson, South Carolina, USA

9:20-9:45 F4 IN VIVO ELECTROCHEMICAL MONITORING OF VITAMIN C

Lanqun MAO (Keynote)

Beijing National Laboratory for Molecular Sciences, Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, Chinese Academy of Sciences (CAS), Beijing 100190, China.

9:45-10:10 F5 NOVEL ELECTROCHEMICAL BIOSENSOR WITH DUAL SIGNAL OUTPUTS FOR IN VIVO ANALYSIS IN BRAIN

Yang TIAN (Keynote)

Department of Chemistry, School of Chemistry and Molecular Engineering, East China Normal University, Dongchuan Road 500, Shanghai 200241, P. R. China

10:10-10:25 **Coffee Break**

Chairmen: Prof. Stephen CREAGER and Prof. Shaojun GUO

10:25-10:50 F6 SINGLE-ATOM NANOZYMES

Shaojun DONG (Keynote)*State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, Jilin 130022, China.*

10:50-11:15	F7	3D INTEGRATED ELECTRODE ARRAY OF FUNCTIONALIZED INDIUM TIN OXIDE FOR ELECTROCHEMICAL SIGNAL AMPLIFICATION
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Taek Dong CHUNG (Keynote)*Department of Chemistry, Seoul National University, Seoul 08826, Korea*

11:15-11:40	F8	MEASURING PROTEIN BINDING WITH PLASMONIC IMAGING OF NANO-OSCILLATORS
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Nongjian TAO (Keynote)*Biodesign Center for Bioelectronics and Biosensors, Arizona State University, Tempe, AZ 85287, USA
School of Electrical, Computer and Energy Engineering, Arizona State University, Tempe, AZ 85287*

11:40-12:05	F9	STRAIN ELECTROCATALYSIS AND ELECTROANALYSIS
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Shaojun GUO (Keynote)*College of Engineering, Peking University***Time: Oct. 25, 2019 PM (Friday)****Location: Room 306B, China National Convention Center, Beijing****Chairmen: Prof. Neso SOJIC and Prof. Hua CUI**

13:30-13:55	F10	PLASMON ENHANCED IR SPECTROSCOPY AND ELECTROCHEMISTRY
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Xinghua XIA (Keynote)*State Key Laboratory of Analytical Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, China*

13:55-14:20	F11	GAS CHROMATOGRAPHY IN THE STUDY OF CO ₂ CONVERSION
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Jing-Li LUO (Keynote)*Dept. of Chemical and Materials Engineering, University of Alberta, Edmonton, Alberta, Canada T6G 1H9*

14:20-14:45	F12	SINGLE NANOPARTICLE DARK-FIELD AND ELECTROCHEMILUMINESCENCE IMAGING
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Jing-Juan XU (Keynote)*State Key Laboratory of Analytical Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, China*



14:45-15:05 F13 RESEARCH ON THE DELIVERY OF PROTEINS TO LIVING CELLS USING DNA PROGRAMMED MEMBRANE FUSION

Di LI (Invited)

School of Chemistry and Molecular Engineering, East China Normal University, 200241, Shanghai, China

15:05-15:25 F14 ENGINEERED BIOLOGICAL NANOPROBES FOR IDENTIFYING SINGLE MOLECULE TARGETS

Shuo Huang (Invited)

Nanjing University

15:25-15:35

Coffee Break

Chairmen: Prof. Jingli LUO and Prof. Xinghua XIA

15:35-16:00 F15 ELECTROCHEMICAL CATALYTIC PROBES FOR AMPLIFIED BIOSENSING

Huangxian JU (Keynote)

State Key Laboratory of Analytical Chemistry for Life Science, Department of Chemistry, Nanjing University, Nanjing 210093, P. R. China

16:00-16:25 F16 SURFACE-CONFINED ELECTROCHEMILUMINESCENCE: FROM BEAD-BASED IMMUNOASSAYS TO CELL MICROSCOPY

Neso SOJIC (Keynote)

University of Bordeaux, Bordeaux INP, ISM, UMR CNRS 5255, Pessac, France

16:25-16:50 F17 POTENTIAL-RESOLVED MULTICOLOR ELECTROCHEMILUMINESCENCE OF NANOCOMPOSITES

Hua CUI (Keynote)

CAS Key Laboratory of Soft Matter Chemistry, iChEM (Collaborative Innovation Center of Chemistry for Energy Materials), Department of Chemistry, University of Science and Technology of China, Hefei, Anhui 230026, China

16:50-17:10 F18 ELECTROCHEMILUMINESCENCE MULTIPLEXED IMMUNOASSAY BASED ON MOLECULAR COMPLEXES AND QUANTUM DOTS

Bin SU (Invited)

Department of Chemistry, Zhejiang University, Hangzhou 310058, China

17:10-17:30 F19 PEPTIDE COMPOSITION ADJUST ITS ELECTRON TRANSPORT

Cunlan GUO (Invited)

Key Laboratory of Analytical Chemistry for Biology and Medicine (Ministry of Education), College of Chemistry and Molecular Sciences, Wuhan University, Wuhan, P. R. China. 430072

Time: Oct. 26, 2019 AM (Saturday)

Location: Room 306B, China National Convention Center, Beijing

Chairman: Prof. Shaowei CHEN and Prof. Yuanhua SHAO

8:30-8:55	F20	HETERO-INTERFACE ENGINEERING OF METAL AND METAL COMPOUNDS AND THEIR APPLICATIONS IN ELECTROCATALYSIS
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Xiurong YANG (Keynote)

State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, Jilin, China.

8:55-9:20	F21	CARBON BASED BIOSENSORS AND BIOELECTRONICS
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Madoka TAKAI (Keynote)

Department of Bioengineering, School of Engineering, The University of Tokyo, 113-8656, Tokyo, Japan

9:20-9:45	F22	SPECTROELECTROANALYSIS FOR SENSITIVE BIOSENSING AND ELECTROCHEMICAL REACTION STUDY
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Baohong LIU (Keynote)

Department of Chemistry, Fudan University, Shanghai 200433, China

9:45-10:10	F23	CROSSLINKED POLYMERIC HYDROGELS AS BIPHASIC SYSTEMS FOR ELECTROANALYTICAL APPLICATIONS
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Cesar A. BARBERO (Keynote)

Research Institute of Energy Technology and Advanced Materials (UNRC-CONICET) – Campus of Universidad Nacional de Rio Cuarto, Ruta 8, km 601, 5800, Rio Cuarto, Argentina.

10:10-10:25

Coffee Break

Chairman: Prof. Madoka TAKAI and Prof. Cesar A. BARBERO

10:25-10:50	F24	FABRICATING AND APPLICATION OF DUAL ULTRAMICROELECTRODES
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Yuanhua SHAO (Keynote)

College of Chemistry and Molecular Engineering, Peking University, Beijing 100871, China

10:50-11:15	F25	CARBON-BASED FUNCTIONAL NANOMATERIALS FOR ELECTROCHEMICAL ENERGY TECHNOLOGIES
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Shaowei CHEN (Keynote)

Department of Chemistry and Biochemistry, University of California, 1156 High Street, Santa Cruz, CA 95064, USA.



11:15-11:35 F26 SELF-POWERED ELECTRONICS FOR SENSING

Zhou LI (Invited)

Beijing Institute of Nanoenergy and Nanosystems, CAS, Beijing 100083, China

11:35-11:55 F27 DYNAMICAL INTERACTIONS OF NANOMATERIALS WITH CELLS

Xiue JIANG (Invited)

State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, Jilin, China

11:55-12:10 F28 EXPLORING DYNAMIC NATURE OF SINGLE NANOPARTICLE ELECTROCHEMISTRY

Hui MA (Oral)

State Key Laboratory of Analytical Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, 210023, China

Time: Oct. 26, 2019 PM (Saturday)

Location: Room 306B, China National Convention Center, Beijing

Chairman: Prof. Hongda WANG and Prof. Carlos M. PEREIRA

13:30-13:55 F29 THE PERFORMANCE IMPROVEMENT AND ANALYTICAL APPLICATION EXPANSIONS OF BIOFUEL CELL

Jun-Jie ZHU (Keynote)

School of Chemistry and Chemical Engineering, State Key Laboratory of Analytical Chemistry for Life Science, Nanjing University, Nanjing, China

13:55-14:20 F30 ELECTROCHEMICAL SENSING AT NANO CONFINED SPACE

Yitao LONG (Keynote)

State Key Laboratory of Analytical Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, P. R. China

14:20-14:40 F31 CONSTRUCTION AND APPLICATION OF ELECTROCHEMILUMINESCENCE APTASENSORS USING ELECTRICALLY HEATED ELECTRODE FOR IN SITU TEMPERATURE CONTROL

Zhenyu LIN (Invited)

MOE Key Laboratory for Analytical Science of Food Safety and Biology, Fujian Provincial Key Laboratory of Analysis and Detection Technology for Food Safety, College of Chemistry, Fuzhou University, Fuzhou, Fujian, 350116, China

14:40-15:00 F32 QUANTITATIVE MEASUREMENTS OF INDIVIDUAL VESICULAR CONTENTS IN SINGLE CELLS WITH INTRACELLULAR VESICLE IMPACT ELECTROCHEMICAL CYTOMETRY

Xianchan LI (Invited)*Center for Imaging and Systems Biology, College of Life and Environmental Sciences,
Minzu University of China, Beijing 100081*

- 15:00-15:20 F33 EFFICIENT SCREENING AND CATALYSIS OF ECs BASED ON
ELECTROCHEMICAL APPROACHES WITH NANO-INTERFACE SELECTIVE
EFFECT

Ying WANG (Invited)*Tongji University*

15:20-15:30

Coffee Break**Chairman: Prof. Junjie ZHU and Prof. Yitao LONG**

- 15:30-15:55 F34 STUDYING THE STRUCTURE OF CELL MEMBRANES BY SINGLE MOLECULE
APPROACHES

Hongda WANG (Keynote)*State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied
Chemistry, Chinese Academy of Sciences, 5625 Renmin Street, Changchun, Jilin
130022, P.R.ChinaHIGH*

- 15:55-16:15 F35 ELECTROCHEMICAL BIOSENSORS BASED ON MOLECULARLY IMPRINTED
POLYMERS AS BIORECOGNITION ELEMENT

Carlos M. PEREIRA (Invited)*CIQUP – Physical Analytical Chemistry and Electrochemistry group, Departamento de
Química e Bioquímica, Porto University, Rua do Campo Alegre 687, 4169 – 007 Porto,
Portugal*

- 16:15-16:30 F36 IN VIVO ELECTROANALYSIS OF ELECTROINACTIVE SPECIES IN RAT BRAIN

Limin ZHANG (Oral)*School of Chemistry and Molecular Engineering, East China Normal University,
Dongchuan Road 500, Shanghai 200241 (China)*

- 16:30-16:45 F37 SOFT ELECTROCHEMICAL/ELECTRONIC DEVICES AND THEIR
APPLICATIONS IN POINT-OF-CARE TESTING

Fei LI (Oral)*The Key Laboratory of Biomedical Information Engineering of Ministry of Education,
School of Life Science and Technology, Xi'an Jiaotong University, Xi'an 710049, China*

- 16:45-17:00 F38 DYNAMIC PHOTOISOMERIZATION OF AZOBENZENE-MODIFIED
OLIGONUCLEOTIDES



Zheng-Li HU (Oral)

State Key Laboratory of Analytical Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, P. R. China

17:00-17:15 F39

A NEW ELECTROCHEMICAL REDOX PROBE FOR SELECTIVE REAL-TIME
PROFILING OF ENDOGENOUS H₂O₂ IN LIVE CELLS

Kesavan MANIBALAN (Oral)

Department of Chemistry, Beijing Key Laboratory of Microanalytical Methods and Instrumentation, MOE Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology, Tsinghua University, Beijing 100084, China.

POSTERS SESSION

F40 A SIMPLE METHOD TO ELECTROCHEMICALLY DEPOSIT ELECTROACTIVE OXIDE NANOPARTICLES. APPLICATION IN ELECTROANALYSIS

Rusbel CONEO-RODRÍGUEZ,¹ Diego F. ACEVEDO, Gabriel A. PLANES,¹ Mariano BRUNO,¹ Cesar A. BARBERO

Research Institute of Energy Technology and Advanced Materials (IITEMA, UNRC-CONICET) – Campus of Universidad Nacional de Rio Cuarto, Ruta 8, km 601, 5800, Rio Cuarto, Argentina

F41 PROBE BEAM DEFLECTION, A METHOD TO ELUCIDATE ELECTROCHEMICALLY DRIVEN ION EXCHANGE OF ELECTROACTIVE FILMS. APPLICATION IN ION SENSORS

Rusbel CONEO-RODRÍGUEZ,¹ N. Gustavo COTELLA, Diego F. ACEVEDO, Gabriel A. PLANES,¹ Mariano BRUNO,¹ Cesar A. BARBERO

Research Institute of Energy Technology and Advanced Materials (IITEMA, UNRC-CONICET) – Campus of Universidad Nacional de Rio Cuarto, Ruta 8, km 601, 5800, Rio Cuarto, Argentina

F42 ELECTROCHEMICAL DETECTION OF H₂O₂ BASED ON AU@CEO₂ NANO MATERIALS

Jie Zhang¹, Mengmei Fa¹, Nan Yin¹, Ruihuan Zhao¹, Yangkai Luo¹, Dingding Yang¹, Xin Yao^{*1,2}

¹ School of Chemical Sciences, University of Chinese Academy of Sciences, Beijing 100049, PR China

² Peking University Third Hospital, Beijing 100191, PR China

F43 NON-INVASIVE DETECTION OF GLUCOSE BASED ON SOLUTION-GATED GRAPHENE TRANSISTOR

Mingyu MA¹, Zhiqi GE², Hanping HE², Tian TAO¹, Chaohui HE¹, Nan GAO¹, Gang CHANG^{1,*} and Yunbin HE^{1,*}

¹ School of Materials Science and Engineering, Hubei University, No. 368 Youyi Avenue, Wuchang, Wuhan 430062, China

² School of Chemistry and Chemical Engineering, Hubei University, No. 368 Youyi Avenue, Wuchang, Wuhan 430062, China

F44 TEMPLATE-FREE SYNTHETIC ULTRA-LONG GOLD NANOWIRE ARRAY FOR HIGHLY SENSITIVE DETECTION OF DOPAMINE

Chaohui HE, Nan GAO, Mingyu MA, Gang CHANG and Yunbin HE

School of Materials Science and Engineering, Hubei University, Wuhan

F45 ELECTROCHEMICAL CO-DEPOSITION SYNTHESIS OF AU-ZRO₂-GRAPHENE NANOCOMPOSITE FOR A NONENZYMATIC METHYL PARATHION SENSOR

Nan GAO, Chaohui HE, Mingyu MA, Gang CHANG, Yunbin HE

Hubei Collaborative Innovation Center for Advanced Organic Chemical Materials, Ministry-of-Education Key Laboratory for the Green Preparation and Application of Functional Materials, School of Materials Science and Engineering, Hubei University, No.368 Youyi Avenue, Wuchang, Wuhan 430062, China



F46 A NOVEL CUFe₂O₄ NANOSPHERES MOLECULARLY IMPRINTED POLYMERS MODIFIED ELECTROCHEMICAL SENSOR FOR IGG DETERMINATION

Axin Liang, Liquan Sun, Aiqin Luo

Beijing Institute of Technology, Beijing, China, Zhongguancun South Street No.5

F47 ELECTROCHEMICAL DETECTION OF ELECTROACTIVE NANOPARTICLES

Romina ia GRAMAGLIA, Maria Victoria MARTINEZ, Mariano BRUNO, Cesar A. BARBERO

Research Institute of Energy Technology and Advanced Materials (UNRC-CONICET) – Campus of Universidad Nacional de Rio Cuarto, Ruta 8, km 601, 5800, Rio Cuarto, Argentina.

F48 IN-SITU MONITORING REACTION PROCESS AT THE ELECTRODE-ELECTROLYTE INTERFACE BY PORE-CONFINED LIQUID TOF-SIMS

Hai-Lun XIA, Xin HUA, Yi-Tao LONG

State Key Laboratory of Analytical Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, 210023, P. R. China

School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai, 200237, P. R.China

F49 NANOPORE CONFINED SPACE TOWARD PRECISION ASYMMETRIC SYNTHESIS OF SINGLE MOLECULES

Bo Yuan^{1,2}, Yi-Lun Ying¹ and Yi-Tao Long^{*1}

¹ State Key Laboratory of Analytical Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, P. R. China.

² School of Chemistry & Molecular Engineering, East China University of Science and Technology, Shanghai 200237 P.R. China

F50 DETECTION OF SINGLE C-DI-AMP BY AN AEROLYSIN NANOPORE

Hongyan Niu¹, Zhengli Hu², Yilun Ying^{*1,2}, Yi-Tao Long²

¹ School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai 200237, P. R. China

² State Key Laboratory of Analytical Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, P. R. China

F51 BIONIC THERMOELECTRIC RESPONSE WITH NANOCHANNELS

Kexin Chen, Lina Yao and Bin Su*

Institute of Analytical Chemistry, Department of Chemistry, Zhejiang University

F52 HIGH PERFORMANCE BAND-EDGE ELECTROCHEMILUMINESCENCE OF QUANTUM DOTS: FROM CORE, CORE/SHELL, TO CORE/SHELL/SHELL

Zhiyuan Cao, Yufei Shu, Haiyan Qin*, Bin Su*, and Xiaogang Peng*

Department of Chemistry, Zhejiang University, Hangzhou 310058, China

F53 POTENTIAL-RESOLVED MULTICOLOR ELECTROCHEMILUMINESCENCE FOR MULTIPLEX IMMUNOASSAY IN A SINGLE SAMPLE

Weiliang Guo,⁺ Hao Ding,⁺ Chaoyue Gu,[‡] Yanhuan Liu,⁺ Xuecheng Jiang,[§] Bin Su,^{*,‡} and Yuanhua Shao[‡]

⁺ Department of Chemistry, Zhejiang University, Hangzhou, 310058, China; [‡] College of Chemistry and Molecular Engineering,

Peking University, Beijing 100871, China; [§] Hangzhou Genesee Biotechnology Limited Company, Hangzhou 315000, China

F54 IMAGING CELL-MATRIX ADHESIONS AND COLLECTIVE MIGRATION OF LIVING CELLS BY ELECTROCHEMILUMINESCENCE MICROSCOPY

Hao Ding, Weiliang Guo, and Bin Su

Department of Chemistry, Zhejiang University, Hangzhou, 310058

¹ Key Laboratory of Molecular Medicine and Biotherapy, School of Life Science, Beijing Institute of Technology, Beijing, China

² School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing, China

F55 QUATERNARY BIOMIMETIC NANOCHANNEL COORDINATED BY LIGHT AND PH

Yuanyi WU, Xiuhong CAI, Yan ZHAO, Xiaohui PAN, Min CHEN, Lidong CHEN, and Yao-Qun LI*

Department of Chemistry and Key Laboratory of Analytical Sciences, College of

Chemistry and Chemical Engineering, Xiamen University, Xiamen, 361005, China

F56 PREPARATION AND EVALUATION OF LEAD ION-IMPRINTED ELECTROCHEMICAL SENSOR

Jishuang YANG^{1,2}, Liqiang SU^{1*}, and Qinghe ZHANG^{2*}

¹ College of Chemistry and Chemical Engineering, Qiqihar University, Qiqihar 161006

² Division of Chemical Metrology and Analytical Science, National Institute of Metrology, China, Beijing 100029, China



SCHEDULE OF SESSIONS

G. ANALYTICAL TECHNIQUES IN LIFE SCIENCES

CHAIRMAN: Prof. Jianwei XIE

ORAL LECTURES

Time: Oct. 25, 2019 AM (Friday)

Location: Room 311B, China National Convention Center, Beijing

Topic: Single molecule/cell/particle analysis

Chairmen: Prof. Xiaomei YAN and Prof. Chunying CHEN

8:30-8:35	/	Opening Remarks
8:35-9:00	G2	IDENTIFYING VIRULENCE DETERMINANTS OF ZIKA VIRUS BY USING REVERSE GENETICS PLUS PLATFORM Chengfeng QIN (Keynote) <i>Department of Virology, State Key Laboratory of Pathogen and Biosecurity, Beijing Institute of Microbiology and Epidemiology, Academy of Military Medical Sciences, Beijing, China</i>
9:00-9:25	G3	FLOW CYTOMETRIC ANALYSIS OF SINGLE EXTRACELLULAR VESICLES FOR BIOMEDICAL RESEARCH Xiaomei YAN (Keynote) <i>Department of Chemical Biology, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, Fujian 361005, China</i>
9:25-9:50	G4	DISCOVERY AND CHARACTERIZATION OF EXOGENOUS NANOPARTICLES IN HUMAN SERUM AND PLEURAL EFFUSION SAMPLES Qian LIU (Keynote) <i>State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China</i>
9:50-10:15	G5	ANALYSIS AND DETECTION OF NANOPARTICLES IN A SINGLE CELL Chunying CHEN (Keynote) <i>CAS Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety and CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology, Beijing, China</i>
10:15-10:25		Coffee Break

Chairmen: Prof. Peng CHEN and Prof. Jie SONG

10:25-10:50 G6 SINGLE-MOLECULE MICROSCOPY OF BACTERIAL METAL HOMEOSTASIS

Peng CHEN (Keynote)*Department of Chemistry and Chemical Biology, Cornell University, Ithaca, New York, USA*

10:50-11:15 G7 CREATE PROTEIN PATTERNS WITH DNA ORIGAMI

Jie SONG (Keynote)*Department of Instrument Science and Engineering in the School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, 800 Dongchuan Road, Shanghai, China*

11:15-11:30 G22 A NOVEL EXONUCLEASE-ASSISTED ISOTHERMAL NUCLEIC ACID AMPLIFICATION WITH ULTRAHIGH SPECIFICITY MEDIATED BY FULL-LENGTH BST DNA POLYMERASE

Jilie KONG*Department of Chemistry and Institutes of Biomedical Sciences, Fudan University, Shanghai, China*

11:30-11:45 G23 THE UNEXPECTED DISCOVERY OF BIOMARKERS AND MOLECULAR EVENTS BY CELL-SELEX

Tao BING*Beijing National Laboratory for Molecular Sciences, Key Laboratory of Analytical Chemistry for Living Biosystems, CAS Research/Education Center for Excellence in Molecular Sciences, Institute of Chemistry, Chinese Academy of Sciences, Beijing, China*

11:45-12:00 G24 GRAPHENE ISOLATED BIOMEDICAL ANALYSIS

Zhuo CHEN*State Key Lab of Chemo/Biosensing and Chemometrics, College of Chemistry and Chemical Engineering, Hunan University, Changsha, Hunan, China***Time: Oct. 25, 2019 PM (Friday)****Location: Room 311B, China National Convention Center, Beijing****Topic: Analytical Chemistry: Meet the Editor****Chairmen: Prof. Xinrong ZHANG and Prof. Jonathan SWEEDLER**

13:00-13:15 / FROM AN EDITOR'S PERSPECTIVE

Jonathan V. SWEEDLER (Editor-in-Chief)*Department of Chemistry and the Beckman Institute, University of Illinois at Urbana-Champaign, Urbana IL, USA*



13:15-14:15 / ONE-HOUR PANEL Q&A

Editors of Analytical Chemistry:

Jonathan V. SWEEDLER (Editor-in-Chief)

Xinrong ZHANG (Asso. Editor-in-Chief)

Time: Oct. 25, 2019 PM (Friday)

Location: Room 311B, China National Convention Center, Beijing

Topic: Precision medicine analysis and medical diagnosis

Chairmen: Prof. Yingfu LI and Prof. Chaoyong YANG

14:30-14:55 G8 IN PURSUIT OF SIMPLE AND ULTRA-SENSITIVE FUNCTIONAL DNA-BASED
BIOSENSING SYSTEMS

Yingfu LI (Keynote)

*Department of Biochemistry and Biomedical Sciences, McMaster University, Hamilton,
Canada*

14:55-15:20 G9 HIGH THROUGHPUT SINGLE CELL SEQUENCING FOR PRECISION MEDICINE

Chaoyong YANG (Keynote)

Department of Chemical Biology, Xiamen University, Xiamen, China

15:20-15:35 G25 MOLECULAR CANCER IMAGING USING RENAL-EXCRETED NIR-II
FLUOROPHORE-PEPTIDE PROBES

Weizhi WANG

*School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing,
China*

15:35-15:45

Coffee Break

Chairmen: Prof. Chengzhi HUANG and Prof. Fan ZHANG

15:45-16:10 G15 DESIGN AND SCREENING OF MULTICYCLIC PEPTIDE AFFINITY REAGENTS
FOR PROTEIN ANALYSIS

Chuanliu WU (Keynote)

*Department of Chemistry, College of Chemistry and Chemical Engineering, The MOE
Key Laboratory of Spectrochemical Analysis and Instrumentation, Xiamen University,
Xiamen, China*

16:10-16:35 G11 NIR-II LANTHANIDE PROBES FOR IN VIVO MULTIPLEXED BIO DETECTION

Fan ZHANG (Keynote)

Department of Chemistry & Laboratory of Advanced Materials & Collaborative Innovation Center of Chemistry for Energy Materials & State Key Laboratory of Molecular Engineering of Polymers, Fudan University, Shanghai, China

16:35-16:50 G26 CAPILLARY ELECTROPHORESIS: AN EFFICIENT TECHNOLOGY FOR BIOSEPARATION AND BIOANALYSIS

Feng QU

School of Life Science, Beijing Institute of Technology, Beijing, China

16:50-17:05 G27 EXPLORING BINDING SITES ON APTAMERS IN APTAMER-IMMUNOGLOBULIN E BINDING BY FLUORESCENCE ANISOTROPY ANALYSIS

Qiang ZHAO

State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China

17:05-17:20 G28 FUNCTIONAL NUCLEIC ACIDS TAILORING AND ITS APPLICATION IN BIOHYBRID INTERFACE SENSOR

Longjiao ZHU

Beijing Advanced Innovation Center for Food Nutrition and Human Health, College of Food Science & Nutritional Engineering, China Agricultural University, Beijing, China

Time: Oct. 26, 2019 AM (Saturday)

Location: Room 311B, China National Convention Center, Beijing

Topic: -omics analysis

Chairman: Prof. Jonathan V. Sweedler and Prof. Haiteng DENG

8:30-8:55 G12 HIGH THROUGHPUT SINGLE CELL MASS SPECTROMETRY OF THE BRAIN

Jonathan V. SWEEDLER(Keynote)

Department of Chemistry and the Beckman Institute, University of Illinois at Urbana-Champaign, Urbana IL, USA

8:55-9:20 G13 SYSTEMATIC ANALYSIS OF BIOLOGICAL FUNCTIONS OF NAD⁺ IN AGING-ASSOCIATED DISEASE

Haiteng DENG (Keynote)

MOE Key Laboratory of Bioinformatics and the Center for Synthetic and Systematic Biology, School of Life Sciences, Tsinghua University, Beijing, China

9:20-9:45 G14 DEEP COVERAGE QUANTITATIVE PROTEOMICS REVEALS MULTIPLE BIOLOGICAL FUNCTION OF UBIQUITIN CHAINS



Ping XU (Keynote)

State Key Laboratory of Proteomics, Beijing Proteome Research Center, National Center for Protein Sciences (Beijing), Institute of Lifeomics, Beijing, China

9:45-10:00 G29 PREDICTING INDIVIDUAL RESPONSE TO WARFARIN WITH PHARMACO-METABOLOMIC, PHARMACO-GENETIC METAGENOMIC METHOD

Guohua ZHOU

Department of Pharmacology, Jinling Hospital, Medical School, Nanjing University, Nanjing, China

10:10-10:15 G30 HIGH THROUGHPUT, INTEGRATIVE SINGLE-CELL SECRETOMIC ANALYSIS

Yao LU

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

10:15-10:25

Coffee Break

Chairman: Prof. Yang WANG and Prof. Chunliu WU

10:25-10:50 G10 NANOSCALE OPTICAL PROBES FOR LONG-TERM BIOIMAGING

Chengzhi HUANG (Keynote)

Key Laboratory of Luminescent and Real-Time Analytical Chemistry (Southwest University), Ministry of Education, College of Pharmaceutical Sciences, Southwest University, Chongqing, China

10:50-11:15 G16 GENOME-BASED XDR PATHOGEN SURVEILLANCE IN THE ANIMAL PRODUCTION CHAIN

Yang WANG (Keynote)

College of Veterinary Medicine, China Agricultural University, Beijing, China

11:15-11:30 G31 MECHANISM ILLUSTRATION OF XENOBIOTIC EXPOSURE IMPAIRMENT BASED ON METABOLOMICS ANALYSIS TECHNOLOGY

Wenpeng ZHANG

State Key Laboratory of Toxicology and Medical Countermeasures, Beijing Institute of Pharmacology and Toxicology, Beijing, China

11:30-11:45 G32 NEW REAGENTS AND METHODS FOR LARGE-SCALE ENRICHMENT, DETECTION AND IDENTIFICATION OF PROTEIN O-GLCNACYLATION

Wanjuan ZHANG

National Center for Protein Sciences (Beijing), Beijing Institute of Lifeomics, Beijing Proteome Research Center, Beijing, China

Time: Oct. 26, 2019 PM (Saturday)

Location: Room 311B, China National Convention Center, Beijing

Topic: Health and safety/ Precise medical diagnosis

Chairman: Prof. Jinlan ZHANG and Prof. Guangming HUANG

13:30-13:55	G17	INVESTIGATION OF METABOLIC PATHWAY IN BRAIN WITH NOVEL MASS SPECTROMETRY METHODS
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Guangming HUANG (Keynote)

Medicine School of Chemistry and Materials Science, University of Science and Technology of China, Hefei, China

13:55-14:20	G18	UHPLC-HRMS /MS METHODS FOR DISCOVERY OF NEW CHOLESTERY ESTERS
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Jinlan ZHANG (Keynote)

State Key Laboratory of Bioactive Substances and Functions of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China.

14:20-14:45	G19	IMAGING OF POLAR AND NONPOLAR SPECIES USING COMPACT DESORPTION ELECTROSPRAY IONIZATION/POSTPHOTOIONIZATION MASS SPECTROMETRY
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Yang PAN (Keynote)

National Synchrotron Radiation Laboratory, University of Science and Technology of China, Hefei, China

14:45-15:00	G33	RAPID SCREENING TECHNOLOGIES FOR HIGHLY TOXIC SUBSTANCES IN FOOD MATRICES
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Jiefang SUN

Beijing Key Laboratory of Diagnostic and Traceability Technologies for Food Poisoning, Beijing Center for Disease Prevention and Control, Beijing, China

15:00-15:15	G34	RESEARCH ON THE ACTIVITY OF TELOMERASE AND SCREENING G-QUADRUPLEX LIGANDS
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Yan JIN

Key Laboratory of Analytical Chemistry for Life Science of Shaanxi Province, School of Chemistry and Chemical Engineering, Shaanxi Normal University, Xi'An, China

15:15-15:30	G35	COMPUTATIONAL ASSISTED PRODUCTION OF ANTIBODY WITH DESIRED CHARACTERISTICS AND IMMUNOASSAY DEVELOPMENT THEREOF
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Cunzheng ZHANG

*Institute of Food Safety and Nutrition, Jiangsu Academy of Agricultural Sciences,
Nanjing, China*

15:30-15:40

Coffee Break

Chairman: Prof. XiuJun James LI and Prof. Gaolin LIANG

15:40-16:05 G20 CATHEPSIN B TURNS BIOLUMINESCENCE “ON” FOR TUMOR IMAGING

Gaolin LIANG (Keynote)

*Hefei National Laboratory of Physical Sciences at Microscale, Department of
Chemistry, University of Science and Technology of China, Hefei, Anhui, China*

16:05-16:30 G21 PAPER/POLYMER HYBRID MICROFLUIDIC PLATFORMS FOR LOW-COST
DISEASE DIAGNOSIS

XiuJun James LI(Keynote)

*Department of Chemistry & Biochemistry, Biomedical Engineering, Border Biomedical
Research Center, University of Texas at El Paso, Texas, USA*

16:30-16:45 G36 THERMAL SENSITIVE FLUORESCENT POLYMERS AND ITS APPLICATION IN
INTRACELLULAR TEMPERATURE SENSING

Juan QIAO

*Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry,
Chinese Academy of Sciences, Beijing, China*

16:45-17:00 G37 ULTRA-SENSITIVE AND MULTIPLEX DIGITAL-PCR BY USING INVASIVE
REACTION TO IDENTIFY AMPLICONS IN EACH REACTION UNIT

Bingjie ZOU

*Department of Pharmacology, Jinling Hospital, Medical School, Nanjing University,
Nanjing, China*

17:00-17:15 G38 THE APPLICATION OF DROPLET MICROFLUIDICS IN MICROBIAL ANALYSIS

Wenbin DU

*State Key Laboratory of Microbial Resources, Institute of Microbiology, Chinese
Academy of Sciences, Beijing, China*

17:15-17:30 G39 GENETIC BIOMARKERS DIAGNOSIS USING COMMERCIAL POCT DEVICES

Yan DU

*State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied
Chemistry, Chinese Academy of Sciences, Changchun, Jilin, China*

17:30-17:40

Closing Remarks & Session Poster Awards

POSTER SESSION

G40 INTEGRATED MASS SPECTROMETRY METHOD DEVELOPMENT FOR ARGININE METHYLATION ANALYSISPing WU, Xiaoxu TIAN, Yue YIN, Chen SU, Chao PENG*

National Facility for Protein Science in Shanghai, Zhangjiang Lab, Shanghai, China; Shanghai Science Research Center, Chinese Academy of Sciences, Shanghai, 201204, China

G41 TRIFUNCTIONAL CROSS-LINKER FOR MAPPING PROTEIN-PROTEIN INTERACTIONS IN CYTOPLASMIC MEMBRANE PROTEINSHang GAO^{1,2}, Qun ZHAO¹, Lili ZHAO^{1,2}, Lihua ZHANG^{*1}, Yukui ZHANG¹¹ CAS Key Laboratory of Separation Sciences for Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China;² University of Chinese Academy of Sciences, Beijing, China**G42 NON-TARGET SCREENING OF CHEMICAL WARFARE AGENTS AND THEIR RELATED CHEMICALS BASED ON LC-MS**Meijuan ZHANG, Bin XU, Yulong LIU, Jia CHEN, Lei GUO, Jianwei XIE*

State Key Laboratory of Toxicology and Medical Countermeasures, and Laboratory of Toxicant Analysis, Academy of Military Medical Sciences, Beijing, China

G43 HIGH EFFICIENT AND SENSITIVE QUANTIFICATION METHOD FOR 19 MAIN RNA MODIFICATIONS BY LIQUID CHROMATOGRAPHY TANDEM MASS SPECTROMETRYZhihong LI, Xiaoxu TIAN, Chao PENG*

National Facility for Protein Science in Shanghai, Zhangjiang Lab, Shanghai, China; Shanghai Science Research Center, Chinese Academy of Sciences, Shanghai, China

G44 APPLICATION OF CYCLIC ION MOBILITY MASS SPECTROMETRY FOR HIGH PEAK CAPACITY SEPARATIONS OF NATIVE AND DEUTERATED PEPTIDE MIXTUREMartin PALMER¹, Dale A. COOPER-SHEPHERD¹, Malcolm ANDERSON¹, James I. LANGRIDGE¹, Robert TONGE¹, John R. ENGEN², Zhiying WANG^{*3}¹ Waters Corporation, Wilmslow, Cheshire, UK;² Northeastern University, Boston, MA, USA;³ Waters Corporation, Jinhai Road, Shanghai, China**G45 A NEW GENOTOXIC SUBSTANCE EVALUATION METHOD BY LIQUID CHROMATOGRAPHY-MASS SPECTROMETRY REGARDING ENDOGENOUS DNA DAMAGE BIOMARKERS**Kexin LI, Yanqin LIU, Minmin QU, Bin XU, Jia CHEN, Ying GONG, Lei GUO*

State Key Laboratory of Toxicology and Medical Countermeasures, and Laboratory of Toxicant Analysis, Institute of Pharmacology and Toxicology, Academy of Military Medical Sciences, Beijing, China

G46 PROTEOMICS LINKS UBIQUITIN CHAIN TOPOLOGY CHANGE TO TRANSCRIPTION FACTOR ACTIVATION

Yanchang LI¹, Qiuyan LAN^{1,2}, Mark A. VILLAMIL³, Yuan GAO¹, Eric B. DAMMER¹, Junzhu WU², Fuchu HE¹, Peter KAISER³, Ping XU^{*1}

¹ State Key Laboratory of Proteomics, Beijing Proteome Research Center, National Center for Protein Sciences (Beijing), Institute of Lifeomics, Beijing, China;

² Key Laboratory of Combinatorial Biosynthesis and Drug Discovery of Ministry of Education, School of Pharmaceutical Sciences, School of Medicine, Wuhan University, Wuhan, China;

³ Department of Biological Chemistry, School of Medicine, University of California Irvine, Irvine, CA, USA

G47 DISTRIBUTION OF TOXIC PEPTIDE BIOMARKERS IN CASTOR BEANS BY MALDI-MSI

Weiwei HE, Bin XU, Wensheng QU, Lei GUO*, Jianwei XIE

State Key Laboratory of Toxicology and Medical Countermeasures, and Laboratory of Toxicant Analysis, Institute of Pharmacology and Toxicology, Academy of Military Medical Sciences, Beijing, China

G48 MICROFLUIDICS ASSISTED SINGLE-CELL LIPID DETECTION SYSTEM USING MASS SPECTROMETRY

Qiushi HUANG, Sifeng MAO, Jin-Ming LIN*

Department of Chemistry, Tsinghua University, Beijing, China

G49 IN VITRO STUDY OF SOMAN POISONING AND EVALUATION OF OXIME EFFICACY BASED ON QUANTITATIVE DETECTION OF EFFECT BIOMARKERS BY LIQUID CHROMATOGRAPHY TANDEM MASS SPECTROMETRY

Lijuan BU, Yajiao ZHANG, Jia CHEN, Lei GUO, Jianwei XIE*

State Key Laboratory of Toxicology and Medical Countermeasures, and Laboratory of Toxicant Analysis, Academy of Military Medical Sciences, China

G50 SIMULTANEOUS DETERMINATION OF XYLENE ISOMERS BY HIGH-FIELD ASYMMETRIC WAVEFORM ION MOBILITY SPECTROMETRY (FAIMS)

Jun HU^{1,2}, Youjiang LIU¹, Shan LI^{1,2}, Jiao JIN^{1,2}, He MA^{1,2}, Ke LI^{1,2}, Chilai CHEN¹

¹ State Key Laboratory of Transducer Technology, Hefei Institute of Intelligent Machines, Chinese Academy of Sciences, Hefei, Anhui, China;

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G51 DETECTION AND DIFFERENTIATE BOTULINUM NEUROTOXIN A, B AND E BASED ON ENDOPEP-MS ASSAY

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G52 GENOTOXICITY EVALUATION OF ARISTOLOCHIC ACID BASED ON THE γ -H2AX BIOMARKER USING MASS SPECTROMETRY

Minmin QU, Jia CHEN, Lei GUO, Hua XU*, Jianwei XIE*

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G53 MICROSPHERE CULTURE ON AN INTEGRATED MICROFLUIDIC DEVICE

Yajing ZHENG^{1,3}, Zengnan WU², Mashooq KHAN¹, Sifeng MAO¹, Kesavan MANIBALAN¹, Nan LI¹, Jin-Ming LIN¹, Ling LIN^{3*}

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³ CAS Key Laboratory of Standardization and Measurement for Nanotechnology, CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology, Beijing, China

G54 LABEL-FREE DETECTION OF LIPOPOLYSACCHARIDES AND DISCRIMINATION OF GRAM-NEGATIVE BACTERIA BY GLYCOPROTEIN PHOTONIC CRYSTAL SENSOR

Ghulam MURTAZA¹, Aysha Sarfraz RIZVI¹, Muhammad IRFAN¹, Dan YAN¹, Zi Hui MENG¹, Feng QU¹

¹ Key Laboratory of Molecular Medicine and Biotherapy, School of Life Science, Beijing Institute of Technology, Beijing, China

¹ School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing, China

G55 OPEN SPACE MICROFLUIDIC DESIGN FOR IN SITU PARTIAL TREATMENT OF SINGLE ADHERENT CELLS

Qiang ZHANG, Jin-Ming LIN*

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G56 VISUAL SINGLE CELL DETECTION OF DUAL-PATHOGENS BASED ON MULTIPLEX SUPER PCR (MS-PCR) AND ASYMMETRIC TAILING HCR (AT-HCR)

Jingjing TIAN¹, Kunlun HUANG¹, Yunbo LUO¹, Longjiao ZHU¹, Youchun XU^{*2}, Wentao XU^{*1,3}

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³ Key Laboratory of Safety Assessment of Genetically Modified Organism (Food Safety), Ministry of Agriculture, Beijing, China

G57 A NONGENETICALLY ENCODED AND ERASABLE IMAGING STRATEGY FOR RECEPTOR-SPECIFIC GLYCANS ON LIVE CELLS



Nan LI, Weifei ZHANG, Ling LIN, Syed Niaz Ali SHAH, Yuxuan LI, Jin-Ming LIN*

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G58 INKJET PRINTING BASED DROPLET GENERATION FOR INTEGRATED ONLINE DIGITAL POLYMERASE CHAIN REACTION

Weifei ZHANG, Nan LI, Jin-Ming LIN*

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G59 A UNIVERSAL LABEL-FREE TECHNIQUE BASED ON SURFACE PLASMON COUPLED EMISSION: IN SITU MONITORING THE GROWTH OF MOFS

Lin-Tao XU, Min CHEN, Yu-Hua WENG, Yao-Qun LI*

Department of Chemistry and Key Laboratory of Analytical Sciences, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China.

G60 THE DETECTION OF SMALL MOLECULE BASED ON APTAMER USING SERFACE PLASMON RESONANCE

Ruihuan ZHAO¹, Nan YIN¹, Jie ZHANG¹, Yangkai LUO¹, Dingding YANG¹, Mengmei FA¹, Xin YAO^{*1,2}

¹ School of Chemical Sciences, University of Chinese Academy of Sciences, Beijing, China;

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G61 LABEL-FREE SPR BIOSENSOR FOR OGT DETECTION

Nan YIN¹, Ruihuan ZHAO¹, Jie ZHANG¹, Yangkai LUO¹, Dingding YANG¹, Mengmei FA¹, Xin YAO^{*1,2}

¹ School of Chemical Sciences, University of Chinese Academy of Sciences, Beijing, China;

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G62 RAPID QUANTIFICATION OF SPECIFIC PATHOGENIC STRAIN AND TOTAL BACTERIA IN EGGS BY NANO-FLOW CYTOMETRY

Chengfeng XUE, Cuiping MAO, Xuzheng WANG, Xiaomei YAN*

Department of Chemical Biology, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, Fujian, China

G63 STUDY ON PLATE DIFFERENTIAL MOBILITY ANALYZER FOR ULTRAFINE PARTICLES SIZING

Youjiang LIU¹, Shan LI¹, Jun HU^{1,2}, Ke Li^{1,2}, Jiao JIN^{1,2}, Chilai CHEN^{1*}

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G64 PREPARATION OF FUNCTIONALIZED SERS SUBSTRATES FOR DETECTION OF FENTANYL BY SURFACE-ENHANCED RAMAN SPECTROSCOPY

Kai WANG, Li LUO, Lei GUO*, Jianwei XIE

State Key Laboratory of Toxicology and Medical Countermeasures, and Laboratory of Toxicant Analysis, Institute of Pharmacology and Toxicology, Academy of Military Medical Sciences, Beijing, China

G65 IMPACT OF FLUID SHEAR STRESS ON CELLULAR ADHESION STRENGTH AND STIFFNESS

Weiwei LI, Sifeng MAO, Mashooq KHAN, Qiang ZHANG, Qiushi HUANG, Shuo FENG, Jin-Ming LIN*

Department of Chemistry, Beijing Key Laboratory of Microanalytical Methods and Instrumentation, MOE Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology, Tsinghua University, Beijing, China

G66 MOLECULARLY IMPRINTED 2-D PHOTONIC CRYSTAL HYDROGEL SENSOR FOR SENSITIVE DETECTION OF L-KYNURENINE IN HUMAN SERUM

Aysha Sarfraz RIZVI¹, Ghulam MURTAZA¹, Muhammad IRFAN¹, Zi Hui Meng², Feng QU^{*1}

¹ Key Laboratory of Molecular Medicine and Biotherapy, School of Life Science, Beijing Institute of Technology, Beijing, China;

² School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing, China

G67 FACILE FABRICATION OF SIO₂@AG CORE-SHELL NANOPARTICLES FOR THE ENHANCEMENT OF ANTIMICROBIAL ACTIVITY

Xiuxiu HU, Yao LIN, Xiaomei YAN*

Department of Chemical Biology, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, Fujian, China

G68 DNA EXTRACTION PROCEDURE EFFECTS QUANTIFICATION RESULT BY DROPLET DIGITAL PCR

Jiayi YANG, Boqiang FU, Chunyan NIU, Jing WANG*

Center for Advanced Measurement Science, National Institute of Metrology, China

G69 IN SILICO APTAMER SELECTION USING PATTERN LIBRARY AGAINST MTB STRINGENT RESPONSE PROTEIN AND INVITRO VALIDATION

Rizwan Ullah KHAN, Muhammad IRFAN-Ghulam MURTAZA, Feng QU*

¹ Key Laboratory of Molecular Medicine and Biotherapy, School of Life Science, Beijing Institute of Technology, Beijing, China

G70 ALTERED FECAL MICROBIOMES FOR CREW MEMBERS ASSESSED BY REPEATED 16S RDNA SEQUENCE ANALYSIS

Hai-Sheng DONG^{1,2}, Peng ZANG², Hai-Fang LI¹, Hai-Yun LAN², Wei ZHAO², Jin-Ming LIN^{*1}

¹ Department of Chemistry, Tsinghua University, Beijing, China;

² State Key Lab of Space Medicine Fundamentals and Application, Key Laboratory of Space Nutrition and Food Engineering, China Astronaut Research and Training Center, Beijing, China

G71 RAPID DETECTION BASED ON OPAL PHOTONIC CRYSTAL

Jialei BAI, Yuan PENG, Baoan NING, Zhixian GAO*

Tianjin Key Laboratory of Risk Assessment and Control Technology for Environment and Food Safety, Tianjin Institute of Environmental and Operational Medicine, Tianjin, China

G72 INSTRUMENT-FREE DETECTION OF MULTIPLE BLOOD PATHOGENS BY COUPLING A SELF-POWERED MICROFLUIDIC CHIP WITH PORTABLE HEATING DETECTION DEVICE

Shan CHEN^{1,#}, Xiangpeng HE^{1,3,#}, Yan LU¹, Bingjie ZOU^{1,*}, Guohua ZHOU^{1,2,3*}

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² Department of Chemistry, State Key Laboratory of Analytical Chemistry for Life Science, Nanjing University, Nanjing, China;

³ School of Life Science and Technology, China Pharmaceutical University, Nanjing, China.

G73 SENSITIVE AND VISUALIZED DETECTION OF BLOOD VIRAL NUCLEIC ACIDS BY MULTIPLEX PCR COMBINED WITH INVADER ASSAY AND OLIGONUCLEOTIDE PROBE-MODIFIED GOLD NANOPARTICLES

Yi MA^{1,2}, Chunyan GONG³, Xiemin QI², Bingjie ZOU^{2*}, Qinxin SONG^{1,2*}, Guohua ZHOU^{1,2}

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² Department of Pharmacology, Jinling Hospital, Medical School of Nanjing University, China;

³ Institute of Dermatology, Chinese Academy of Medical Sciences, Nanjing, China

G74 SENSITIVE COLORMETRIC DETECTION FOR GLU504LYS POLYMORPHISM BY PCR-BASED INVASIVE REACTION COUPLED WITH GOLD NANOPARTICLE PROBE

Nan SHENG¹, Huijie YUE¹, Tianhui DONG¹, Bingjie ZOU¹, Guohua ZHOU^{1*}

¹ Department of Pharmacology, Jinling Hospital, Medical School of Nanjing University, China

G75 AUTOMATED DIGITAL PCR SYSTEM BASED ON DAPCO TECHNIQUE

Caiming Li¹, Meng Zheng¹, Dongyang Cai², Wenbin DU^{*,1}

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² Dawei Biotechnologies, China

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SCHEDULE OF SESSIONS

H. ENVIRONMENTAL ANALYSIS

CHAIRMAN: Prof. Hailin Wang

ORAL PRESENTATION

Time: Oct. 25, 2019 (Friday) AM

Location: Room 307B, China National Convention Center, Beijing

8:30-8:40

Opening Address

Chairman: Dr. Jingwen Chen and Dr. Hailin Wang

8:40-9:05

H2

MATCHING METALS TO PROTEINS IN CELLS: IDENTIFICATION OF PROTEIN TARGETS AND DISCOVERY OF DRUG CANDIDATES

Dr. Hongzhe Sun (Keynote)

University of Hong Kong, China

9:05-9:30

H3

ARSENIC SPECIATION IN ATMOSPHERIC PARTICULATE MATTERS

Dr. Chungang Yuan (Invited)

North China Electric Power University, China

9:30-9:55

H4

TOXICITY AND ANTILEUKEMIC ACTIVITIES OF INORGANIC ARSENICALS AND ITS METABOLITES

Dr. Hua Naranmandura (Invited)

School of Medicine and Public Health, Zhejiang University, China

9:55-10:10

H5

DIOXIN SUPPRESSES AChE ACTIVITY IN NEURON AND MUSCLE

Dr. Qunhui Xie (Oral)

Research Center for Eco-Environmental Sciences, CAS, China

10:10-10:30

Coffee Break

Chairman: Dr. Hongzhe Sun and Dr. Hua Naranmandura

10:30-10:55

H6

PREDICTION ON HYDROLYSIS MECHANISMS AND KINETICS OF CHEMICALS

Dr. Jingwen Chen (Keynote)

Dalian University of Technology, China

10:55-11:20

H7

SIMPLE AND INTEGRATED SPINTIP-BASED TECHNOLOGY FOR SPATIAL PROTEOME PROFILING



Dr. Ruijun Tian (Invited)

Southern University of Science and Technology, China

11:20-11:45 H8 CHARACTERIZATION OF MERCURY-BINDING PROTEINS IN RAT BLOOD

Dr. Ligang Hu (Invited)

Research Center for Eco-Environmental Sciences, CAS, China

11:45-12:00 H9 NOVEL SENSING PLATFORM BASED ON APTAMERS SELECTIVITY FOR EMERGING CONTAMINANTS DETECTION AND SIGNAL AMPLIFICATION

Dr. Ying Wang (Oral)

Tongji University, China

LUNCH

Date: Oct. 25, 2019 (Friday) PM

Chairman: Dr. Zhen Liu and Dr. Wenjun Ding

14:00-14:25 H10 NEW APPROACHES FOR IDENTIFICATION OF SMALL PEPTIDES AND THEIR DISINFECTION BYPRODUCTS IN WATER

Dr. Xing-Fang Li (Keynote)

University of Alberta, Canada

14:25-14:50 H11 IN VIVO, IN SITU, AND MICROSCALE LIPIDOMICS INVESTIGATION OF COMPLEX BIOLOGICAL SAMPLES USING SURFACE-COATED PROBE NANO-ELECTROSPRAY IONIZATION MASS SPECTROMETRY

Dr. Tiangang Luan (Keynote)

Guangdong University of Technology, China

14:50-15:05 H12 THREE-DIMENSIONAL IMAGING MASS SPECTROMETRY TO VISUALIZE BIOMARKER DISTRIBUTIONS IN ENVIRONMENTAL TOXICOLOGY

Dr. Chao Zhao (Oral)

Shenzhen Institutes of Advanced Technology, CAS, China

15:05-15:20 H13 LIPID METABOLISM DISORDERS CONTRIBUTE TO HEPATOTOXICITY OF TRICLOSAN IN MICE

Dr. Wei Huang (Oral)

Hong Kong Baptist University, China

15:20-15:40

Coffee Break

Chairman: Dr. Xing-Fang Li and Dr. Tiangang Luan

- 15:40-16:05 H14 EPITRANSCRIPTOMIC 5-METHYLCYTOSINE PROFILE IN PM2.5-INDUCED MOUSE PULMONARY FIBROSIS
Dr. Wenjun Ding (Keynote)
University of Chinese Academy of Sciences, China
- 16:05-16:30 H15 PRECISE EFFICACY EVALUATION OF ANTI-CANCER DRUGS VIA PROBING APOPTOSIS SIGNALING PROTEINS IN SINGLE LIVING CELLS
Dr. Zhen Liu (Keynote)
Nanjing University, China
- 16:30-16:45 H16 STUDY ON THE CARDIAC HYPERTROPHY AND FIBROSIS INDUCED BY PM 2.5 REAL-TIME EXPOSURE
Dr. Rong Zhang (Invited)
Hebei Medical University, China
- 16:45-17:00 H17 BIOMARKERS OF AIR POLLUTANT EXPOSURE IN THE CHINESE AGED 60-69 (CHINA BAPE)
Dr. Song Tang (Oral)
National Institute of Environmental Health, Chinese Center for Disease Control and Prevention, China
- 17:00-17:15 H18 AGILENT 8700 LASER DIRECT INFRARED IMAGING OF MICROPLASTICS
Dr. Xiaodan Zhang (Oral)
Agilent Technologies (China) Co., Ltd

POSTER SESSION**Time: Oct. 26, 2019 (Saturday) AM****Location: Room 307B, China National Convention Center****Chairman: Dr. Yinsheng Wang and Dr. Shoulin Wang**

- 8:30-8:55 H19 EPIGENOMIC INSIGHT OF ENVIRONMENTAL DISEASES
Dr. Zhibin Wang (Keynote)
Johns Hopkins University, USA
- 8:55-9:20 H20 SINGLE CELL ANALYSIS BY INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY
Dr. Bin Hu (Keynote)
Wuhan University, China
- 9:20-9:45 H21 MERCURY ISOTOPE VARIATIONS IN COASTAL MARINE SEDIMENTS OF CHINA



Dr. Jianbo Shi (Invited)

Research Center for Eco-Environmental Sciences, CAS, China

9:45-10:00 H22 NON-TARGET SCREENING OF ORGANIC POLLUTANTS IN MULTIMEDIA IN CHINA

Dr. Si Wei (Oral)

Nanjing University, China

10:00-10:15 H23 HIGH THROUGHPUT SCREENING OF ORGANIC CONTAMINANTS IN ENVIRONMENTAL WATER USING ONLINE SPE COMBINED WITH UHPLC-MS/MS

Dr. Meiling Lü (Oral)

Agilent Technologies (China) Co., Ltd

10:15-10:30

Coffee Break

Chairman: Dr. Zhibin Wang and Dr. Bin Hu

10:30-10:55 H24 ZINC FINGER PROTEINS AS TARGETS FOR ARSENIC TOXICITY AND CARCINOGENICITY

Dr. Yinsheng Wang (Keynote)

University of California-Riverside, USA

10:55-11:20 H25 EXTRAHEPATIC METABOLIC ENZYMES AND ENVIRONMENTAL CHEMICAL-INDUCED TARGET TOXICITY

Dr. Shoulin Wang (Keynote)

Nanjing Medical University, China

11:20-11:45 H26 CHEMICAL COMPOSITION AND HEALTH RISK INDICES ASSOCIATED WITH SIZE-RESOLVED PARTICULATE MATTERS

Dr. Yuanxun Zhang (Invited)

University of Chinese Academy of Sciences, China

11:45-12:00 H27 P2X7 RECEPTOR REGULATES THE EXOCYTOSIS OF SINGLE-WALLED CARBON NANOTUBES IN MURINE MACROPHAGE

Dr. Bin Wan (Oral)

Research Center for Eco-Environmental Sciences, CAS, China

LUNCH

Oct. 26, 2019 (Saturday) PM

Chairman: Dr. Jinian Shu and Dr. Zihui Meng

14:00-14:25 H28 STUDY ON THE EXPOSURE PATTERN AND POTENTIAL HEALTH RISKS OF OCCUPATIONAL EXPOSURE TO PFAS

Dr. Yawei Wang (Keynote)*Research Center for Eco-Environmental Sciences, CAS, China*

14:25-14:50	H29	CIRCULATING ESSENTIAL METALS AND LUNG CANCER: RISK ASSESSMENT AND POTENTIAL MOLECULAR EFFECTS
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Dr. Huan Guo (Invited)*Huazhong University of Science and Technology, China*

14:50-15:05	H30	PFASS AND PPCPS IN A DRINKING WATER PLANT IN THE YANGTZE RIVER DELTA OF CHINA: OCCURRENCE, REMOVAL AND RISK ASSESSMENT
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Dr. Jun Huang (Oral)*Tsinghua University, China*

15:05-15:20	H31	CHARACTERIZATION OF PAHS IN SOIL OF THE NON-FERROUS METAL SMELTING AREA, NORTH CHINA: DISTRIBUTION, SOURCES AND POTENTIAL HUMAN HEALTH RISK ASSESSMENT
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Dr. Ming Liang (Oral)*China University of Mining and Technology, China*

15:20-15:40		Coffee Break
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Chairman: Dr. Yawei Wang and Dr. Huan Guo

15:40-16:05	H32	A NEW EFFECTIVE IONIZATION PATHWAY
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Dr. Jinian Shu (Invited)*University of Chinese Academy of Sciences, China*

16:05-16:30	H33	STUDY ON THE DETECTION OF ANTIBIOTICS IN THE ENVIRONMENT BY PHOTONIC CRYSTAL
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Dr. Zihui Meng (Invited)*Beijing Institute of Technology, China*

16:30-16:45	H34	RAMAN SPECTROSCOPY FOR FINE STRUCTURE CHARACTERIZATION: FROM ELECTRON, MOLECULE, ATOMIC ENSEMBLE TO METAL COMPLEX
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Dr. Rui Liu (Oral)*Research Center for Eco-Environmental Sciences, CAS, China*

16:45-17:00	H35	RESEARCH ON REFERENCE MATERIALS OF PESTICIDE METABOLITES IN THE ENVIRONMENT
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Dr. Lei Zhang (Oral)*Alta Technology Co., Ltd., China*



POSTER SESSION

H36 ANALYSIS OF COMPLEX POLYCYCLIC AROMATIC HYDROCARBONS IN COAL FIRE SPONGE (CFS) BY HIGH RESOLUTION MASS SPECTROMETRY

Dandan XU¹, Handong LIANG^{1*}, Xiaona Zhang¹

¹ State Key Laboratory of Coal Resources and Safe Mining, Beijing 10083, China

² China University of Mining and Technology, Beijing, Beijing 10083, China

H37 FLUORESCENCE ASSAY FOR AFLATOXIN B1 USING FLUORESCHEIN-LABELED APTAMER AND BLACK HOLE QUENCHER1-LABELED COMPLEMENTARY DNA

Yapiao Li^{1,2} and Qiang Zhao^{1,2*}

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² University of Chinese Academy of Sciences, Beijing, 100049, China

H38 NEW LC-MS METHOD FOR FAST DETECTION OF DNA DAMAGES INDUCED BY HALOBENZOQUINONES EXPOSURE

Junfa YIN^{*1}, Shaokun CHEN^{1,2} and Hailin WANG^{*1,2}

¹ State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, 100085, China

² University of Chinese Academy of Sciences, Beijing, 100049, China

H39 UHPLC-MS/MS ANALYSIS OF M3C AND M5C IN RNA

Cong Lyu¹, Weiyei Lai¹ and Hailin Wang^{*1}

¹ State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing,

H40 IN SITU ANALYSIS OF AB PROTEIN ON BRAIN SLICES ARTIFICIAL EVOLUTION OF HIGH-AFFINITY AND N6-METHYLADENINE IDENTIFICATION PROTEINS

Liu Yan¹, Chen Shaokun¹, Wang Hailin^{1,*}

¹ State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China

H41 ANALYSIS OF METHYLATION IN URINE CELL FREE DNA

Wenchao Deng¹, Ning Zhang², Hailing Wang^{*1,2}

¹ State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China

² Institute of Environment and Health, Jiangnan University, Wuhan 430056, China.

H42 TET2 KNOCKDOWN INHIBITS ESTROGEN SIGNALING PATHWAY IN MCF-7 CELLSYun Ren¹, Hailin Wang^{*1}¹ State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China**H43 PROFILING THE STATIC AND DYNAMIC INTERACTIONS BETWEEN E.COLI SINGLE-STRANDED BINDING PROTEIN(ECSSB) AND SINGLE-STRANDED DNA(SSDNA) BY PRECISE DISTRIBUTION SEQUENCING ASSAY(PD-SEQ)**Zheng YUAN^{1,2}, Fangzhi YU^{1,2}, Yangde MA², Dapeng ZHANG¹, Yan LIU^{1,2}, Xiangjun LI^{1,2}, and Hailin WANG^{*1,2,3}¹ State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China² University of Chinese Academy of Sciences, Beijing 100049, China³ Jiangnan University, Wuhan, Hubei 430056, China**H44 5-HYDROXYMETHYLCYTOSINE AND 5-FORMYLCYTOSINE CONTENTS ARE DECREASED IN THE EARLY STAGE OF HEPATOCELLULAR CARCINOMA**Jiezhen Mo^{1,2}, Hailin Wang^{*1,2}¹ State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, 100085, China² University of Chinese Academy of Sciences, Beijing, 100049, China**H45 CATALYTIC DNAZYME BASED CAPILLARY ELECTROPHORESIS LASER-INDUCED FLUORESCENCE FOR LEAD (II) DETECTION**Dapeng ZHANG¹ and Hailin WANG^{*1,2}¹ Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, 100085, China² University of Chinese Academy of Sciences, Beijing, 100049, China**H46 THIOL-FUNCTIONALIZED GRAPHENE OXIDE / POLYACRYLONITRILE ELECTROSPUN (AGNPS@PAN/GO-SH) FOR HIGHLY ACTIVE CATALYTIC REDUCTION**Zhiqiong LI¹, Qi GUO², Xiaoyang WEI², and Chungang YUAN^{*2}¹ Department of Environmental Science & Engineering, North China Electric Power University, Baoding 071000, China² MOE Key Laboratory of Resources and Environmental Systems Optimization, College of Environmental Science and Engineering, North China Electric Power University, Beijing 102206, China**H47 THE STUDY OF INTERACTION BETWEEN PROTEIN TET2 AND YBX1**Shaokun CHEN^{1,3}, Xingjun LI^{*1,3}, Hailin WANG^{*2,3}

¹ School of Chemistry and Chemical Engineering, University of Chinese Academy of Sciences, Beijing 100049, China

² State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Beijing 100085, China

³ University of Chinese Academy of Sciences, Beijing 100049, China

H48 QUANTIFICATION OF ADENOSINE TRIPHOSPHATE AND ITS METABOLITES BY HIGH-PERFORMANCE REVERSED-PHASE ION-PAIR CHROMATOGRAPHY ANALYSIS

Changheng JING¹, and Hailin WANG^{*1}

¹ State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, 100085, China

H49 DETERMINATION OF TRACE AMOUNTS OF 5-FORMYLCYTOSINE BY COMBINING CHEMICAL LABELING WITH HIGH PERFORMANCE UHPLC-Q-TOF MS

Yangde Ma^{1,2}, Ning Zhang², Xiangjun Li¹, Hailin Wang^{*1,2}

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² State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, 100085, China

H50 SSB-ASSISTED CESEPARATION FOR RAPID AND SENSITIVE DETECTION OF DNA STRAND EXCHANGE

Fangzhi YU, Zheng YUAN, Dapeng ZHANG, Hailin WANG^{*}

State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, 100085, China

H51 EXTRA-LOW FORMIC ACID-ENHANCED UHPLC-MS/MS DETECTION OF DNA DIMERIC PHOTOPRODUCTS INDUCED BY UV RADIATION AT LOW DOSAGE

Ning Zhang¹, Yangde Ma², Wenchao Deng³, Yao Li^{1,2}, Hailin Wang^{1,2,3*}

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² University of Chinese Academy of Sciences, Beijing 100049, China

³ Institute of Environment and Health, Jiangnan University, Wuhan 430056, China

H52 ELEMENTAL MERCURY REMOVAL IN COAL-FIRED FLUE GAS USING BIO-ACTIVATED CARBON

Xuelei DUAN¹, Tiantian JING¹, Xiaodong YUAN and Chungang YUAN^{*1}

¹ Hebei Key Lab of Power Plant Flue Gas Multi-Pollutants Control, Department of Environmental Science & Engineering, North China Electric Power University, Baoding 071000, China

² MOE Key Laboratory of Resources and Environmental Systems Optimization, College of Environmental Science and Engineering, North China Electric Power University, Beijing 102206, China

H53 QUANTITATIVE ANALYSIS OF PARAQUAT AND DIQUAT IN ENVIRONMENTAL WATER AND PLANT BY LC/MS/MS WITH AGILENT WEAK CATION EXCHANGE SPE CLEANUP

Xia Yang, Thomas Szakas

Agilent Technologies, Inc.

H54 MOLECULAR CHARACTERIZATION OF LOW MOLECULAR WEIGHT ALKYL-PAHS FROM XINJIANG LONG-FLAME COAL

Shan LI, Handong LIANG, Ming LIANG

State Key Laboratory of Coal Resources and Safe Mining, China

University of Mining & Technology, Beijing 100083, China

H55 APTAMER-BASED FLUORESCENT SWITCH FOR BISPHENOL A DETECTIONLiyang LIU^{1,2}, Qiang ZHAO^{1,2*}¹ State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, 100085, China² University of Chinese Academy of Sciences, Beijing, 100049, China**H56 AN APTASENSOR FOR SENSITIVE DETECTION OF AFB1 USING FLUOROPHORE LABELED APTAMER AND COMPLEMENTARY DNA MODIFIED GOLD NANOPARTICLES AS QUENCHER**Chao WANG¹, Yapiang LI¹, Ce ZHOU¹, Qiang ZHAO^{*1}¹ State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China**H57 ELECTROSPUN METAL-ORGANIC FRAMEWORK NANOFIBER COMPOSITE FOR ADSORPTION OF ARSENIC FROM AQUEOUS SOLUTION**Qi GUO¹, Xiaoyang WEI¹ and Chungang YUAN^{*1}¹ Hebei Key Lab of Power Plant Flue Gas Multi-Pollutants Control, Department of Environmental Science & Engineering, North China Electric Power University, Baoding 071000, China² MOE Key Laboratory of Resources and Environmental Systems Optimization, College of Environmental Science and Engineering, North China Electric Power University, Beijing 102206, China**H58 PREPARATION OF HALLOYSITE-ENCAPSULATED MAGNETIC MICROSPHERE FOR ELEMENTAL MERCURY REMOVAL FROM COAL-FIRED FLUE GAS**Xuelei DUAN¹ Chungang YUAN^{*1}¹ Hebei Key Lab of Power Plant Flue Gas Multi-Pollutants Control, Department of Environmental Science & Engineering, North China Electric Power University, Baoding 071000, China² MOE Key Laboratory of Resources and Environmental Systems Optimization, College of Environmental Science and Engineering, North China Electric Power University, Beijing 102206, China

H59 BIOAVAILABILITY OF TYPICAL HEAVY METALS IN PRIMARY PARTICLES

Yiwen SHEN¹, Jiaojiao XIE¹, Kaiqiang HE¹ and Chungang YUAN^{*1}

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² MOE Key Laboratory of Resources and Environmental Systems Optimization, College of Environmental Science and Engineering, North China Electric Power University, Beijing 102206, China

H60 ANALYSIS OF SELENIUM SPECIES IN SOLID WASTE FROM COAL COMBUSTION BY HPLC-HG-AFS

Mengdan SHI¹, Kaiqiang HE², Yanghong JIANG³, Chungang YUAN^{*}

Department of Environmental Science & Engineering, North China Electric Power University, Bao Ding, 071000

H61 STUDY ON PREPARATION METHOD OF ONLINE NANO SILVER BASED ON BIOSYNTHESIS

Chenchen Liu¹, Houyu Wang², Chungang Yuan^{*2}

¹ Department of Environmental Science and Engineering, North China Electric Power University (Baoding), Baoding, Hebei, China

² Department of Environmental Science and Engineering, North China Electric Power University (Baoding), Baoding, Hebei, China

H62 SUB-PPTV SENSITIVITY IN ON-LINE VOC ANALYSIS BY A NOVEL PTR-TOF REACTION CELL SUPERPOSING DC AND RF FIELDS

Felipe D. Lopez-Hilfiker¹, Liang Zhu¹, Manue¹ Hutterli¹, Luca Cappellin¹

¹ TOFWERK AG, Thun, Switzerland

H63 TOXICANT IDENTIFICATION AND BIOTOXICITY ASSESSMENT GUIDING TOXICITY REDUCTION OF DISCHARGED WASTEWATER

Chia-Liang Yen, Tsung-Ming Chi, Chun-Kai Huang, Chi-Chen Wu, Yong-Chein Ling^{*}

Department of Chemistry, National Tsing Hua University, Hsinchu 30013, Taiwan

H64 POLY (IONIC LIQUIDS) FUNCTIONALIZED MAGNETIC NANOPARTICLES AS EFFICIENT SORBENT FOR PYRETHROIDS EXTRACTION FROM ENVIRONMENTAL WATER COUPLED WITH GC-MS DETECTION

Tiefeng WANG¹, Ruiqi ZHANG¹, Zhen GONG¹, Ping SU^{*1} and Yi YANG^{*1}

¹ College of Chemistry, Beijing Key Laboratory of Environmentally Harmful Chemical Analysis, Beijing University of Chemical Technology, Beijing 100029, P.R. China

E-mail: yangyi@mail.buct.edu.cn

H65 SENSITIVE FLUOROMETRIC DETECTION OF MANGANESE(II) BASED ON FLUORESCENCE QUENCHING OF GREEN-EMITTING GOLD NANOCCLUSERS

Tao PENG¹, Jie XIE¹, Yanfang ZHANG², Haiyang JIANG², You JIANG¹, Xiang Fang¹ and Xinhua Dai^{*1}

¹ Mass Spectrometry Engineering Technology Research Center, Center for Advanced Measurement Science, National Institute of Metrology, Beijing 100029, People's Republic of China

² Beijing Advanced Innovation Center for Food Nutrition and Human Health, College of Veterinary Medicine, China Agricultural University, Beijing 100193, People's Republic of China

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H66 DEVELOPMENT OF A NON-CHROMIUM GAS DETECTOR TUBE FOR METHANOL AND 2-PROPANOL DETECTION

Koji KAWAMURA¹, Kazumasa MIYAZAWA¹

¹ Komyo Rikagaku Kogyo K. K., 1-8-28 Shimonoge, Takatsu-Ku, Kawasaki-City, Kanagawa, Japan

E-mail: kawamura@komyokk.co.jp

H67 COMPLETELY CRYOGEN-FREE MONITORING OF PAMS OZONE PRECURSORS, TO-15 AIR TOXICS AND OVOCS IN AMBIENT AIR IN A SINGLE RUN

Bing Zhang, Caroline Widdowson, Helen Martin, Chris Llewellyn



SCHEDULE OF SESSIONS

I: Chemical Metrology and Reference Material

CHAIRMAN: Prof. Hongmei LI

ORAL LECTURES

Date: October 25, 2019 AM

Location: Room 308, China National Convention Center, Beijing

9:00-9:10		Welcome Speech (Prof. Hongmei LI)
9:10-9:35	I2	New Applications and Techniques for Reference Materials Derek CRASTON (Keynote)
9:35-10:00	I3	Reference Materials: What's New in ISO Guide 35: 2017? Thomas LINSINGER
10:00-10:45		Coffee Break/Poster session
10:45-11:10	I4	AI-Biosensing for Precision Medicine & Health Xueji ZHANG (Keynote)
11:10-11:35	I5	LCMS Methods and Traceability of CSF Biomarkers Measurements Chiara GIANGRANDE
11:35-12:00	I6	Light-scattering Detection within the Difficult Size Range of Protein Particle Measurement Using Flow Cytometry Zhishang HU
12:00-13:30		Lunch

Date: October 25, 2019 PM

13:30-13:55	I7	Establishment of a Global Measurement System of Mycotoxin and Its Measurement Techniques Hongmei LI (Keynote)
13:55-14:20	I8	Statistical Methods for Reference Material Certification Stephen ELLISON
14:20-14:45	I9	Establishment, Evaluation and Expression of Metrological Traceability of Reference Materials-A Step by Step Guidance Xiaohua LU

14:45-15:10	I10	Identification of emerging organic pollutants based on certified standards and reference materials Ting RUAN
15:10-15:30		Coffee break
15:30-15:55	I11	The Measurand, Quantity Traceability and the Comparability of Clinical Test Results Baorong CHEN
15:55-16:20	I12	NMIJ's Challenges to Establish Metrological Traceability for in-vitro Diagnosis Analysis Megumi KATO (Keynote)
16:20-16:45	I13	Measurement of Protein-Health Status Markers Using Mass Spectrometry Andre HENRION
16:45-17:10	I14	Development of 12 Kinds of Fresh Frozen Serum Reference Materials Xianzhang HUANG
17:10-17:35	I15	Quantification of DNA Reference Materials Based on Phosphorus Analysis Using ICP-MS Gang LIU
17:35-18:00	I16	Qualitative and Quantitative Methods for Simultaneous Analyses of 24 Sulfonamides by LC, LCMS and UHPLC Lei ZHANG
18:30		Dinner

Date: October 26, 2019 AM

9:00-9:25	I17	Primary Reference Materials and Calibrants for Mycotoxin Analysis in Foods Robert WIELGOSZ (Keynote)
9:25-9:50	I18	Reference Materials for Botanical Dietary Supplement Ingredients – Development, Characterization, and Use Stephen A. WISE (Keynote)
9:50-10:15	I19	Proficiency Testing and Reference Materials within the Africa Food Safety Network Maria Fernandes-WHALEY
10:15-10:35		Coffee break
10:35-11:00	I20	Speciation of Trace Elements in Food Zoltan MESTER (Keynote)
11:00-11:25	I21	KRISS Activities for Establishing National Measurements Standards in Food Safety Area Byungjoo KIM (Keynote)



11:25-11:50 I22 The Role of Food Safety Metrology Programme in Singapore's War on Diabetes
Tanglin TEO

12:00-13:30 **Lunch**

Date: October 26, 2019 PM

13:30-13:55 I23 TO BE DECIDED

Yibing LV

13:55-14:20 I24 Activities for Elements and Species Analysis in Environmental Area

Jingbo CHAO

14:20-14:30 I25 Accuracy-Based Proficiency Testing Programme on Toxic Elements (Arsenic, Cadmium and Lead) in Herbal Material

Meng Kait Benny TONG

14:30-14:40 I26 Food Safety Metrology Capacity Building at NMISA

Maria Fernandes-WHALEY

14:40-15:00 **Coffee break**

15:00-15:10 I27 Development of Heavy Metals in Food for Food Safety Metrology Capacity Building in Malaysia

Noor Hidayah binti ABDUL NASIR

15:10-15:20 I28 Food Safety in Vietnam

PHAM Phi Hung

15:20-15:30 I29 Research and Application of Measurement Standard and Technical System in Agro-Product Safety in Pakistan

Tahseen ASLAM

15:30-15:40 I30 Activities of the INMETRO in the area of Food Safety

Rodrigo LEAL

15:40-15:50 I31 SNSU-BSN's Metrology in Chemistry Activities in Food Safety: A Review from 2014 to the Present

Yosi ARISTI AWAN

15:50-16:00 I32 The impact of Pesticide Standard Solutions for Food Safety in Thailand

Nittaya SUDSIRI

16:00-16:10 I41 Food Safety Metrology Capacity Building in Argentina: INTI Contributions

Pablo SANCHEZ

16:00-17:30 Discussion

17:30-18:00 Wrap-up

18:30 **Dinner**

POSTER SESSION

I33 CANDIDATE REFERENCE MEASUREMENT PROCEDURE FOR DETERMINATION OF UREA IN SERUM BY LIQUID CHROMATOGRAPHY-TANDEM MASS SPECTROMETRY

LIQIAO HAN, XIAOTING HUANG, LU ZHANG, QIAOXUAN ZHANG, JIANBING WANG, HAIBIAO LIN, JUN YAN, JUNHUA ZHUANG, XIANZHANG HUANG*

DEPARTMENT OF LABORATORY MEDICINE, GUANGDONG PROVINCIAL HOSPITAL OF CHINESE MEDICINE, GUANGZHOU 510120, CHINA

I34 DETERMINATION OF NITROPOLYCYCLIC AROMATIC HYDROCARBONS IN ATMOSPHERIC PARTICLES BY SELECTIVE ACCELERATED SOLVENT EXTRACTION-GAS CHROMATOGRAPHY-NEGATIVE CHEMICAL IONIZATION MASS SPECTROMETRY

TANG HUA^{1*}, YE CHANGJUN¹, CHEN DAZHOU¹, ZHAO XINYING²

¹ NATIONAL INSTITUTE OF METROLOGY, BEIJING 100029, CHINA

² CHINA BEIJING CENTER FOR PHYSICAL AND CHEMICAL ANALYSIS, BEIJING KEY LABORATORY OF ORGANIC MATERIALS TESTING TECHNOLOGY & QUALITY EVALUATION □ BEIJING 100094

I35 DISCUSSION ON BACKGROUND POLLUTION IN DETERMINATION OF ORGANOCHLORINE PESTICIDES IN AMBIENT AIR BY GAS CHROMATOGRAPHY-HIGH RESOLUTION MASS SPECTROMETER

WU XUE¹, TANG HUA^{1*}, ZHANG JING-XING², YU HAI-BIN²

¹ NATIONAL INSTITUTE OF METROLOGY, BEIJING 100029, CHINA

² CHINA NATIONAL ENVIRONMENTAL MONITORING CENTRE, BEIJING 100012, CHINA

I36 SURVEY OF ANALYTICAL METHODS FOR PFOA AND PFOS IN ATMOSPHERIC PARTICULATE

Ying WANG¹, Hua TANG^{*2}, Xue WU², Dayong CHEN^{*1}

¹ Jiangsu Collaborative Innovation Center of Biomedical Functional Materials, Jiangsu Key Laboratory of Biomedical Materials, College of Chemistry and Materials Science, Nanjing Normal University, Nanjing 210023, China

² National Institute of Metrology, Beijing 100029, China

I37 PURITY DETERMINATION OF SYNTHETIC GLUCAGON USING A MASS BALANCE APPROACH

Xinxue WANG¹, Haofeng SUN¹, Wen ZHU², Lingyun MA², Jianyi LIU² and Dewei SONG^{*2}

¹ Beijing University of Chemical Technology, Beijing 100029, China

² National Institute of Metrology, China, Beijing 100029, China

I38 POTENTIAL REFERENCE MEASUREMENT PROCEDURE -- CRP IN SERUM WAS DETERMINED BY IDMS AFTER ENZYME DIGESTION

WEN ZHU¹, HONGFEI CHEN¹, XINXUE WANG², JIANYI LIU², LINGYUN MA², HAOFENG SUN² AND DEWEI SONG^{*2}

¹ NANJING INSTITUTE OF MEASUREMENT AND TESTING TECHNOLOGY, NANJING 210049 CHINA

² NATIONAL INSTITUTE OF METROLOGY, CHINA, BEIJING 100029, CHINA

I39 RAPID DETERMINATION OF CHLORAMPHENICOL IN HONEY USING DIRECT DILUTION COMBINED SPE WITH LC-IDMS/MS

TIAN TIAN¹², YAN ZHANG¹, XIA ZHOU¹, XIUQIN LI^{1*}, SHUYU LIU^{2*}

¹ DIVISION OF CHEMICAL METROLOGY AND ANALYTICAL SCIENCE, NATIONAL INSTITUTE OF METROLOGY, BEIJING 100029, P. R. CHINA

² SHANGHAI UNIVERSITY OF ENGINEERING SCIENCE, CHEMISTRY AND CHEMISTRY AND CHEMICAL ENGINEERING SHANGHAI 201620

I40 PREPARATION OF CRM CANDIDATE OF FLORFENICOL IN PRAWN POWDER FROM INCURRED SAMPLES

Lingbo Jian, Mengrui YANG, Jian ZHOU, Min WANG *

Institute of Quality Standard and Testing Technology for Agro-Products, Chinese Academy of Agricultural Sciences, Beijing 100081, China

I41 FOOD SAFETY METROLOGY CAPACITY BUILDING IN ARGENTINA: INTI CONTRIBUTIONS

Pablo Facundo SANCHEZ, Fernando Francisco RACO, María Alejandra RODRIGUEZ, Patricia Alejandra GATTI
Chemical Metrology Division, National Institute of Industrial Technology (INTI), Buenos Aires, Argentina

I42 ACCURACY-BASED PROFICIENCY TESTING PROGRAMME ON TOXIC ELEMENTS (ARSENIC, CADMIUM AND LEAD) IN HERBAL MATERIAL

BENNY TONG, FRANSISKA DEWI, TANG LIN TEO

CHEMICAL METROLOGY LABORATORY, CHEMICAL METROLOGY DIVISION, APPLIED SCIENCES GROUP, HEALTH SCIENCES AUTHORITY, SINGAPORE

I43 CLOUD POINT EXTRACTION COUPLED TO HPLC-APCI-MS/MS FOR TRACE-LEVEL DETERMINATION OF BROMINATED FLAME RETARDANTS IN WATER

XIA ZHOU¹ AND QINGHE ZHANG^{*1}

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I44 ABSOLUTE QUANTIFICATION OF VISININ-LIKE PROTEIN 1 BY SPECIES-SPECIFIC ISOTOPE DILUTION MASS SPECTROMETRY

MENGYUN PAN¹, LIUXING FENG^{*1}

¹ NATIONAL INSTITUTE OF METROLOGY (NIM), CHINA

I45 RAPID SIMULTANEOUS DETERMINATION OF MYCOTOXINS IN EDIBLE OIL BY ULTRA HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY COUPLED TO QUADRUPOLE ORBITRAP MASS SPECTROMETRY

Shuangqing LI, Xiaomin LI, and Qinghe ZHANG

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100029, China

146 DEVELOPMENT OF B AMYLOID PEPTIDE CANDIDATE CERTIFIED REFERENCE MATERIAL BY LIQUID CHROMATOGRAPHY ISOTOPE DILUTION MASS SPECTROMETRY

ZHONGZHONG HUO^{1,2}, LIUXING FENG², JINPING XIONG¹

¹ BEIJING UNIVERSITY OF CHEMICAL TECHNOLOGY, COLLEGE OF MATERIAL SCIENCE AND TECHNOLOGY □ BEIJING 100029 □ CHINA

² NATIONAL INSTITUTE OF METROLOGY □ BEIJING 100013 □ CHINA

148 AUNPS-DNAZYME MOLECULAR MOTOR BIOSENSOR MEDIATED BY NEIGHBORHOOD CLICK CHEMISTRY REACTIONS FOR THE ULTRASENSITIVE DETECTION OF MICRORNA-155

Wanchong He, Shuting Li, Lianzhen Wang, Longjiao Zhu, and Yangzi Zhang

Beijing Advanced Innovation Center for Food Nutrition and Human Health, College of Food Science and Nutritional Engineering, China Agricultural University, Beijing 100083, China

149 THREE-DIMENSIONAL SELF-ASSEMBLY OF NANOPOROUS COMPOSITE AS A NOVEL ADSORBENT FOR MAGNETIC SOLID-PHASE EXTRACTION

SHENG WANG, MING LI, XIUQING LI, XIAOMIN LI, SHUANGQING LI, PEIZEI WU, QINGHE ZHANG, HONGMEI LI*

DIVISION OF CHEMICAL METROLOGY AND ANALYTICAL SCIENCE, NATIONAL INSTITUTE OF METROLOGY, BEIJING 100029, P. R. CHINA

150 PURITY MEASUREMENT OF HUMAN INSULIN PROTEIN BY HPLC-QNMR-HPLC

TING HUANG, WEI ZHANG, HONGMEI LI, YAJUAN HE, CAN QUAN

DIVISION OF CHEMICAL METROLOGY AND ANALYTICAL SCIENCE, NATIONAL INSTITUTE OF METROLOGY, BEIJING, 100029, CHINA.

151 QUALITATIVE AND QUANTITATIVE METHODS FOR SIMULTANEOUS ANALYSES OF 24 SULFONAMIDES BY LC, LCMS AND UHPLC

Jingfei SHI^{1,2}, Lei ZHANG^{1,2*}

¹ Alta Scientific Co., Ltd, Tianda S&T Park, Suite C6-301, 80 The Fourth Street, TEDA, Tianjin 300457, China.

² Alta Academy of Reference Materials, Tianda S&T Park, Suite C5-405, 80 The Fourth Street, TEDA, Tianjin 300457, China.

152 NOVEL SYNTHESIS AND CHARACTERIZATION OF FLUMICLORAC: A METABOLITE OF HERBICIDE FLUMICLORAC-PENTYL

Shilei HAN^{1,2}, Mingfeng HAO¹, Lei ZHANG^{1,2*}

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153 PREPARATION OF U-PB MATERIAL AND ITS APPLICATION FOR U-PB DETERMINATION BY SIMS

LI Boping¹, GUO Dongfa^{*1}, CUI Jianyong¹, LIU Ruiping¹, HE Shen¹

¹ Beijing Research Institute of Uranium Geology, Beijing, 100029, China

154 SILICON DRIFT DETECTORS IN ELECTRON MICROSCOPY – AN OVER 20 YEAR HISTORY WITH A BRIGHT FUTURE

Atakan Simsek¹, Adrian Niculae¹, Heike Soltau¹, Andreas Liebel¹, Alois Bechteler¹, Kathrin Hermenau¹, Klaus Heinzinger², Lothar Strüder³

¹ PNDetector GmbH, Otto-Hahn-Ring 6, D-81739 München, Germany

² PNSensor GmbH, Otto-Hahn-Ring 6, D-81739 München, Germany

³ University of Siegen, Department of Physics, Walter-Flex-Str. 3, 57068 Siegen, Germany

155 CALIBRATION SAMPLES HOMOGENEITY CONTROL FOR QUANTIFICATION IN GLOW DISCHARGE MASS SPECTROMETRY

Jianying Zhang¹, Tao Zhou¹, Yichuan Tang¹, Yanjie Cui¹, Bing Wu¹

¹ division Of Chemical Metrology & Analytical Chemistry, National Institute Of Metrology, Beijing 100029, China

156 QUALITATIVE AND QUANTITATIVE METHODS FOR SIMULTANEOUS ANALYSES OF 24 SULFONAMIDES BY LC, LCMS AND UHPLC

Jingfei SHI^{1,2}, Lei ZHANG^{1,2*}

¹ Alta Scientific Co., Ltd, Tianda S&T Park, Suite C6-301, 80 The Fourth Street, TEDA, Tianjin 300457, China.

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157 DEVELOPMENT OF THREE CERTIFIED MATERIALS FOR WATER CONTENT IN SOLIDS

Xuting ZHI¹, Haifeng WANG^{2,*}, Zhijie WU¹, Jia LI²

¹ China University of Petroleum-Beijing, Beijing, China

² National Institute of Metrology of China, Beijing, China

158 RAPID AMINO ACID QUANTIFICATION WITH LIQUID CHROMATOGRAPHY AND Q-LIT MASS SPECTROMETRY

Jie xie, xiaoyun gong, rui zhai, shiying chu, yuting an, weijie zeng, zejian huang, you jiang, xinhua dai*, xiang fang*

Mass Spectrometry Engineering Technology Research Center, Center For Advanced Measurement Science, National Institute Of Metrology, Beijing, 100029 People's Republic Of China

159 RECENT ADVANCE OF FIPRONIL AND ITS METABOLITES DETERMINATION

Xianjiang LI*, Hongmei LI

Food Safety Laboratory, Division of Metrology in Chemistry, National Institute of Metrology, Beijing 100029, China

160 ABSOLUTE QUANTITATIVE IMAGING STRATEGY OF ELEMENTS AND AB BIOMARKERS IN ALZHEIMER'S DISEASE MICE BRAIN BY ISOTOPE DILUTION LASER ABLATION ICP-MS

Liuxing Feng

National Institute of Metrology, P.R. China

161 THE PRODUCTION OF PURITY REFERENCE MATERIAL OF SCHISANDRIN A

Jifeng XU¹, Xuege PAN¹, Fengqi WANG¹, Anping DAI¹, Tianpei XIE², Yong QIAN²

¹ Shanghai Standard Technology Co.,Ltd., Building 25, Xinhao Road 58, Shanghai, China

² Standard Testing Lab(Shanghai)Co.,Ltd., Building 25, Xinhao Road 58, Shanghai, China



SCHEDULE OF SESSIONS

J. LABELED IMMUNOASSAY TECHNOLOGY

CHAIRMAN: Prof. Guangtao Yan

ORAL LECTURES

Time: Oct. 25, 2019 AM (Friday)

Location: Room 307A, China National Convention Center, Beijing

Chairmen: Prof. Hua Jing and Prof. Jiankui Chen

9:00-9:40 J2 MICROFLUIDICS-BASED DIAGNOSTICS AND PREPARATION OF BIOMATERIALS

Xingyu JIANG (Keynote)

Beijing Engineering Research Center for BioNanotechnology & CAS Key Laboratory for Biological Effects of Nanomaterials and Nanosafety National Center for Nanoscience and Technology, Beijing 100190, China

9:40-10:20 J3 TO EXPLORE THE EARLY WARNING MARKS OF GASTROINTESTINAL TUMORS FROM THE THEORY OF CHINESE MEDICINE CONSTITUTION

Jianwei Guo (Keynote)

Beijing First Integrated Traditional Chinese and Western Medicine Hospital

10:20-10:40

Coffee Break

10:40-11:20 J4 ETIOLOGICAL DIAGNOSIS AND EVALUATION OF SEVERE PNEUMONIA

Xinxin Lu (Keynote)

Beijing Tongren Hospital, Capital Medical University

11:20-12:00 J5 HIV LABORATORY TESTING OPTIMIZES AIDS DIAGNOSIS AND TREATMENT

Yajie Wang (Keynote)

Director of Beijing Temple of Earth Hospital Affiliated to Capital Medical University

Time: Oct. 25, 2019 PM (Friday)

Location: Room 307A, China National Convention Center, Beijing

Chairmen: Prof. Hua Jing and Prof. Jiankui Chen

13:30-14:10 J6 PRECISION MEDICINE FOR CARDIOVASCULAR DISEASES

Zhou Zhou (Keynote)*Professor and Director of Laboratory Medicine, Fuwai Hospital, National Center for Cardiovascular Diseases*

14:10-14:50 J7 IVD KEY RAW MATERIAL - FLUORESCENT DYE

Jibo Xia (Keynote)*US Everbright Inc, General manager*14:50-15:00 **Coffee Break**15:00-15:40 J8 TUMOR MICROENVIRONMENT REGULATION BY THE ER STRESS
TRANSMISSION MEDIATOR GP73**Xiaoli Yang (Keynote)***Department of Clinical Laboratory, the Third Medical Centre, Chinese PLA (People's Liberation Army) General Hospital, Beijing 100039, P.R.China.*15:40-16:20 J9 ESTABLISHMENT AND VERIFICATION OF MIRNAS EXPRESSION
MOLECULES FOR BREAST CANCER AND ITS DISTANT METASTASIS**Yanhong Gao (Keynote)***Department of Clinical Laboratory, the First Medical Centre, Chinese PLA (People's Liberation Army) General Hospital, Beijing 100853, P.R.China.*16:20-17:00 **Discussion****Time: Oct. 26, 2019 AM (Saturday)****Location: Room 307A, China National Convention Center, Beijing****Chairmen: Prof. Guangtao Yan**09:00-09:40 J10 MICROFLUIDIC CHIPS AND NANOMATERIALS BASED POCT FOR
IMMUNOLOGICAL DIAGNOSIS AND CELL ANALYSIS**Lei Zhou (Keynote)***Professor Lei Zhou, National Key Laboratory of Biochemical Engineering, PLA Key Laboratory of Biopharmaceutical Production & Formulation Engineering, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100190, China.*

09:40-10:20 J11 TROP-2, A DUAL FUNCTION PROTEIN IN TUMOR BIOLOGY

Huayi Huang (Keynote)*MD, PhD. Senior Director, Medical Academic, Mindray North America; Adjunct Professor of Oncology, Department of Surgical Oncology, Roswell Park Comprehensive Cancer Center; Buffalo, NEW York*10:20-10:40 **Coffee Break**



10:40-11:20 J12 APPLICATION OF NUCLEIC ACID MASS SPECTROMETRY IN AMD RELATED GENE POLYMORPHISM

Xiangyi Liu (Keynote)

Director of Beijing Tongren Hospital, Capital Medical University

Time: Oct. 26, 2019 PM (Saturday)

Location: Room 307A, China National Convention Center, Beijing

Chairmen: Prof. Guangtao Yan

13:30-14:10 J13 DEVELOPMENT AND CLINICAL APPLICATION OF IMMUNOLABELING TECHNIQUE

Xiuru Guan (Keynote)

Director of First Affiliated Hospital of Harbin Medical University

14:10-14:50 J14 APPLICATION OF BIOMARKERS IN IVD INDUSTRY CHAIN FOR PRECISION DIAGNOSTICS AND THERAPEUTICS

Liangxiu He (Keynote)

Xinxinbio. Com, Ltd, ACTHTEAM, LLC USA); Liangxiu He MBA MS Founder

14:50-15:00

Coffee Break

15:00-15:40 J15 EXPLORATION AND APPLICATION OF POTENTIAL MARKERS RELATED TO HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS

Shunzong Yuan (Keynote)

M.D., Ph.D. Department of Laboratory Medicine, The Fifth Medical Center, Chinese PLA General Hospital (Former 307th hospital of the PLA)

15:40-16:20 J16 DIGITAL PCR: INNOVATIONS OF A TO Z AND APPLICATIONS IN PRECISION MEDICINE

Guo Yong (Keynote)

Department of Biomedical Engineering, Tsinghua University

16:20-17:00

Discussion

17:00

Closing Remarks

POSTER SESSION

J17 ESTABLISHMENT OF AN ELECTROCHEMILUMINESCENCE DETECTION METHOD FOR HUMAN TROPONIN I(CTNI)

LIANG Chen¹, XUE Hui¹, FENG Jie¹, DENG Wen-bin², ZHOU Gui-sheng², ZENG Ying², ZHOU Ming², YAN Guang-tao¹

¹ Laboratory Medicine Center, PLA General Hospital, Beijing 100853

² Lifotronic Technology Co. Ltd., Shenzhen, Guangdong 518055

J18 ESTABLISHMENT OF AN ELECTROCHEMILUMINESCENCE DETECTION METHOD FOR N-TERMINAL BRAIN NATRIURETIC PEPTIDE PRECURSORS

WEI Xue-mei¹, LIANG Chen¹, XUE Hui¹, FENG Jie¹, DENG Wen-fu², ZHOU Gui-sheng², ZENG Ying², ZHOU Ming² and YAN Guang-tao¹

¹ Department of Clinical Laboratory center, The First Medical Center of the PLA General Hospital, Beijing 100853, China

² Shenzhen pumen technology co., LTD, Shenzhen 518055, China

J19 ESTABLISHMENT OF ELECTROCHEMICAL LUMINESCENCE DETECTION METHOD FOR HUMAN SERUM IL-6

XI Jie¹, LIANG Chen¹, XUE Hui¹, FENG Jie¹, PAN Wen², CHEN Jian-hong², ZENG Ying², ZHOU Ming² and YAN Guang-tao¹

¹ Department of Clinical Laboratory center, The First Medical Center of the PLA General Hospital, Beijing 100853, China

² Shenzhen pumen technology co., LTD, Shenzhen 518055, China

J20 STUDY ON LIVER FUNCTION RELATED INDICATORS LEVEL CHANGES AND IT'S CLINICAL SIGNIFICANCE IN PATIENTS WITH SIGMOID COLON CANCER

FENG Jie¹, YANG Rui-xiang², GAO Yan-hong¹, WANG Kun¹, YAN Guang-tao¹

¹ Laboratory Medicine Center, PLA General Hospital, Beijing 100853

² Department of Laboratory Medicine, Xiangya School of Medicine, Central South University, Changsha, Hunan 410078

J21 IN SITU ANALYSIS OF AB PROTEIN ON BRAIN SLICES

Xue Gao^{1,2}, Liuxing FENG^{*2}, Shi-zhong Luo^{*1}

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J22 EXPRESSION OF TROP-2 AND E-CADHERIN IN COLORECTAL CANCERS AND CORRELATION WITH CLINICAL PATHOLOGICAL FEATURES



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J23 CLINICAL IMMUNOLOGY MECHANISM RESEARCH OF INFLAMMATORY CORPUSCLE AND LUNG CANCER

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