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BCEIA 2019

**BCEIA2019**

第十八届  
北京分析测试学术  
报告会暨展览会

The 18<sup>th</sup> Beijing Conference and  
Exhibition on Instrumental Analysis

**会后报告**  
**REPORT**

中国分析测试协会

China Association for Instrumental Analysis

2019.11



**分析科学 创造未来**

Analytical Science Creates Future



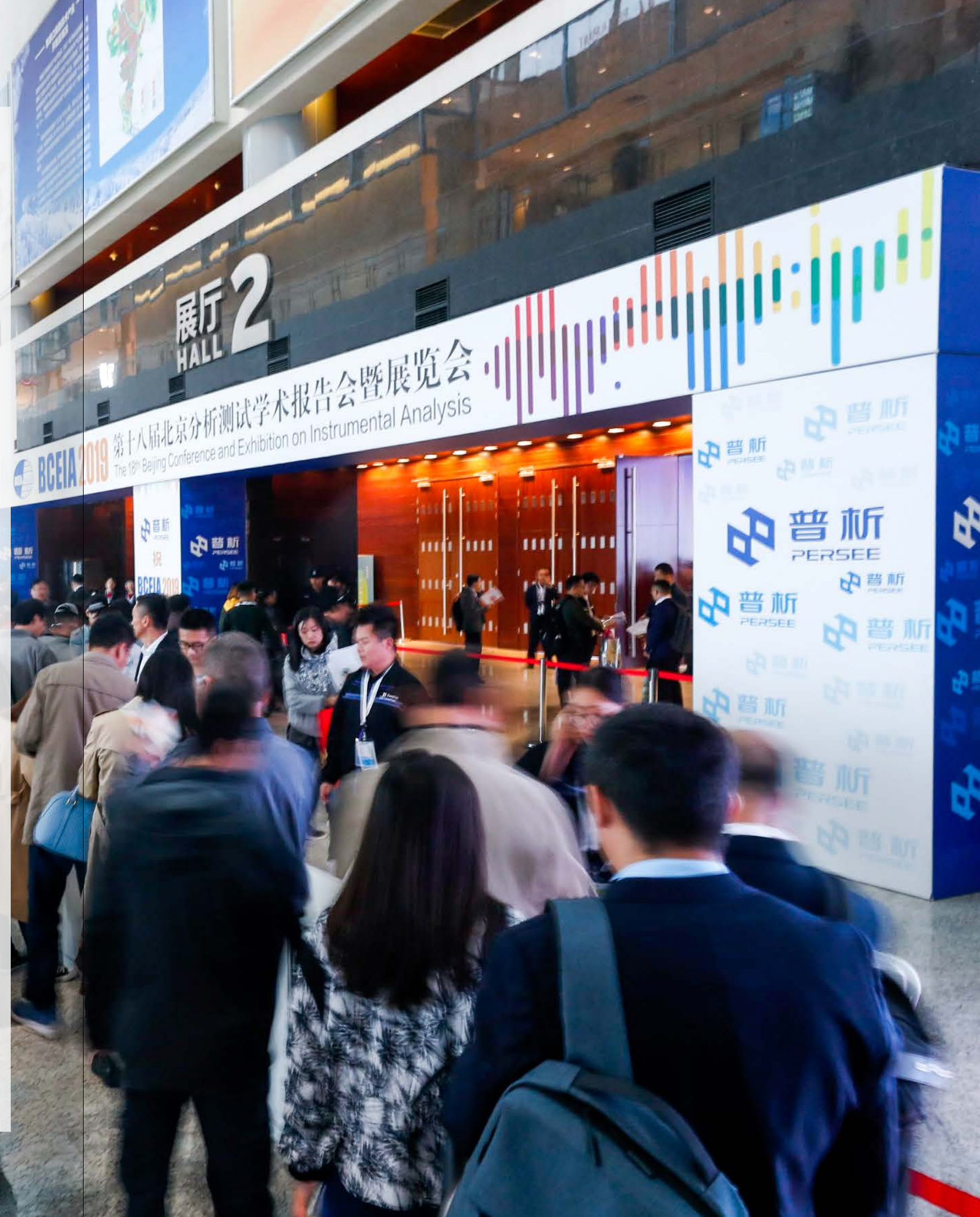
**BCEIA 2019**

**2019.10.23-26**

**北京·国家会议中心  
CNCC · BEIJING**

**中国分析测试协会**

**China Association for Instrumental Analysis**







目录  
CONTENTS

前言 Preface ..... 02

大会组织机构 BCEIA2019 Organizational Structure ..... 07

学术报告会 BCEIA2019 Academic Conference ..... 08-27

学术委员会 BCEIA2019 Academic Committee ..... 08

大会报告 Plenary Session ..... 09

分会报告 Parallel Sessions ..... 12

墙报展 Posters ..... 15

国际高峰论坛 International Summits ..... 16

论坛及同期会议 Special Forums and Concurrent Meetings ..... 26

展览会 BCEIA2019 Exhibition ..... 28-38

概况 Overview ..... 30

特色展区 Featured Exhibition ..... 35

第三届全国重大科学仪器设备开发专项暨地方科学仪器开发专项成果展  
The 3rd National Key Scientific Instrument and Equipment Project  
& Local Scientific Instrument Development Project Exhibition

特色展区 Featured Exhibition ..... 37

中国实验室建设与发展专题论坛 “多元化模块实验室展区”  
"Diversified Modular Laboratory Exhibition Area" of the China  
Laboratory Construction & Development Forum

BCEIA 金奖获奖企业 BCEIA Gold Award Winners ..... 38

观众信息统计 Audience Statistics ..... 39-44

现场活动 On-Site Activities ..... 45-47

BCEIA 2019 前言  
PREFACE

2019 年 10 月 23-26 日，由中国分析测试协会举办的第十八届北京分析测试学术报告会暨展览会（BCEIA 2019）在北京·国家会议中心成功举办。今年的 BCEIA 盛况空前，活动缤纷，无论规模还是专业水平，都超越了往届。

2019 年展览面积达到 35000 m<sup>2</sup>，同比增加 34%；参展商达到 564 家，来自 17 个国家和两个地区，同比增加 24%；参会专业观众人数达到 28650 人，同比增加 12%；通过视频直播、图文直播平台在线参会观众实际访问量达到 6433 人，高水平的学术报告近 1000 场，来自中国、美国、加拿大、澳大利亚、新加坡、韩国、日本、德国、瑞士、英国、比利时、法国等 22 个国家和两个地区的 4400 余名专家、学者参会。

参会学者中仅中国科学院院士、中国工程院院士、美国科学院院士、加拿大皇家科学院院士、第三世界科学院院士就有 18 名之多，包括程津培院士、江桂斌院士、张玉奎院士、詹启敏院士、汪尔康院士、陈洪渊院士等。

与会国外学者 100 多名，包括国际分析化学领域顶级学术期刊《Analytical Chemistry》主编 Jonathan Sweedler 教授，国际计量局（BIPM）化学部主任 Robert Wielgosz 博士，国际质谱学会（IMS F）主席、前国际人类蛋白质组组织（HUPO）主席 Catherine E. Costello 教授，DNA 高通量测序仪发明者 Norman Dovichi 教授等国际知名分析科学家出席了学术报告会。

学术报告会围绕原位电镜、电化学原位谱学研究、DNA 纳米技术应用、石墨烯产业化之路、国际单位制 SI 重新定义、毛细管电泳结合高通量测序技术用于宏基因组分析等前沿研究内容进行交流，10 个大会报告中有 5 个报告内容与生命科学、医学诊断相关，反映了分析科学当前的热点研究方向。专题论坛涵盖了超快分子光谱、核能新材料、微流控与细胞分析、表面分析、环境分析、食品安全、实验室安全运营、第三方检测等多方面的主题内容。

本次大会新增了“分析检测与体外诊断”和“科学仪器发展”两个国际高峰论坛，这是主办方中国分析测试协会在 BCEIA 举办史上进行的首次尝试与创新。分析检测与体外诊断国际高峰论坛聚焦生命科学、精准医学等热点研究领域，将分析科学与体外诊断两个不同学科融合起来，打造跨学科、跨领域交流的平台。科学仪器发展国际高峰论坛就企业关注的融资并购、战略转型等问题，邀请全球知名跨国仪器企业高管作主旨报告，同时采用专题讨论的方式，邀请几位报告人围绕全球及中国科学仪器市场的发展等问题展开了热烈的讨论。

本届展会参展仪器产品水平较高，特别是展出了多项人工智能、物联网、量子等前沿科技应用研究成果。国外展商纷纷携新产品亮相，如融合了人工智能和物联网技术的液相色谱仪，可以实现完全自动化的分析流程，仪器和手持终端设备互联，实时监测预

警,无人值守完成分析全序列;具有智能互联功能的气相色谱仪(包括微型气相色谱仪),用户可在任意地点从PC或平板电脑查看仪器状态,运行诊断程序;结合智能算法和诊断功能、实现自我故障排除的电感耦合等离子体发射光谱仪(ICP-OES)等。

国产科学仪器的发展引人注目,涌现出太赫兹时域光谱仪、600MHz超导核磁共振波谱仪、脉冲式电子顺磁共振波谱仪(EPR)、高性能核磁共振弛豫分析仪、三重四极杆串联质谱仪(LC-MS/MS)、质子转移反应质谱仪、微波等离子体固相分析发射光谱仪、便携式差分拉曼光谱仪、动态多谱分析仪(TGA-NIR-GC/MS)、制备型超临界流体色谱系统、高效微流电动液相色谱仪等成型的商品化仪器。

展览会除传统的仪器设备、试剂、耗材、软件信息系统展区之外,两个特色展区“国家重大科学仪器设备开发专项暨地方科学仪器开发专项成果展”和“多元化模块实验室展区”也备受关注。

为贯彻落实党中央提出的“人才强国”战略要求,BCEIA 2019首次举办了高技能分析测试人才培养发展论坛以及分析测试行业人才交流活动。高技能分析测试人才培养发展论坛从人才培养创新模式、企业对人才的需求等方面,对人才供需双方提出了可供借鉴的经验和建议。分析测试行业人才交流活动有近70家仪器生产企业、高校、科研院所、检测机构等单位提供了近1000个岗位需求,招聘面试过程中有21位企业总经理、43位总监级别以上领导亲自参加,现场求职者达2000人之多。

本届展会继续开展了“分析仪器快速筛检互动体验活动”,3天时间内有20多家展商参与。实验演示过程包括了土壤、水质、农产品、化妆品等重金属痕量分析,食品添加剂非法添加成分检测,接触角测量,呼出气中挥发性有机物成分测定用于早期疾病的快速筛查,疑似毒品中管制药品快速定性筛查等。

《Analytical Chemistry》多位主编、副主编莅临现场,举办了见面交流会,指导青年学者提高科研学术水平和论文撰写质量。

在方便观众参会方面,继续开设展会直通车,并首次设计了“BCEIA金奖”获奖产品、样品前处理、质谱仪器等多条主题参观路线,使得观展的针对性和便捷性进一步增强。

展会宣传力度大大加强。全新的视觉符号贯穿全场,引入了《中国日报》、CCTV央视网、中国科技网等重量级媒体进行宣传报道,云相册、视频直播等手段的应用使未到场的观众也能感受到BCEIA的盛况。

来自蒙古、越南、泰国、孟加拉、印度、巴基斯坦、伊朗、埃及、尼日利亚、苏丹10个“一带一路”沿线国家的“输华水果质量安全检测技术国际培训班”学员,以及北京十一中学的中学生集体组织来到展会现场进行参观学习。

由中国分析测试协会组织质检、农业、材料、环境、生物医药等多个行业领域以及中国科学院、高校等多个单位的专家编撰的《中国分析测试科技发展40年》纪念册在展会上受到观众的热烈欢迎。

盛会虽已闭幕,余味仍萦心间。2021年9月27-29日,我们将相约北京·中国国际展览中心(天竺新馆),见证BCEIA的下一辉煌!

The 18th Beijing Conference and Exhibition on Instrumental Analysis (BCEIA 2019), hosted by China Association for Instrumental Analysis (CAIA), was successfully held at the National Convention Center in Beijing from Oct.23-26, 2019. This year's BCEIA was a grand occasion, with a wide range of activities surpassing the previous BCEIAs in both scale and professional level.

The exhibition area of BCEIA2019 was 35,000 m<sup>2</sup>, representing a 34% increase than that of BCEIA2017. There were 564 exhibitors from 17 countries and two regions representing a growth of 24% in attendance over the previous event. 28,650 professional visitors attended the conference & exhibition, up 12% from two years ago. 6,433 visitors attended the conference online utilizing live video broadcasting and live graphic broadcasting platforms. There were almost 1000 academic presentations delivered by high-profile speakers during the event, with the attendance of more than 4,400 experts and scholars from 22 countries and two regions, including China, the United States, Canada, Australia, Singapore, South Korea, Japan, Germany, Switzerland, the United Kingdom, Belgium and France.

Notably, 18 of the participating scholars were members from the Chinese Academy of Sciences, the Chinese Academy of Engineering, the U.S. National Academy of Sciences, the Academy of Science of the Royal Society of Canada and the Third World Academy of Sciences, including Academician Jinpei Cheng, Academician Guibin Jiang, Academician Yukui Zhang, Academician Qimin, Zhan, Academician Erkang Wang, Academician Hongyuan Chen, etc.

More than 100 foreign scholars attended the academic conference, including Prof. Jonathan Sweedler, Editor-in-chief of Analytical Chemistry (a top academic journal in the field of international analytical chemistry), and Dr. Robert Wielgosz, Head of the Chemistry Section of the International Bureau of Weights and Measures (BIPM), Prof. Catherine E. Costello, Chairman of the International Mass Spectrometry Society (IMSF) and former Chairman of the Human Proteome Organization (HUPO), and Prof. Norman Dovichi, inventor of DNA high-throughput sequencing instrument.

The academic conference focused on in-situ electron microscopy, electrochemical in-situ spectroscopy, application of DNA nano-technology, industrialization of graphene, redefinition of the international system of units (SI), application of capillary electrophoresis combined with high-throughput sequencing technology for metagenome analysis and other frontier research contents. Five of the ten plenary lectures were related to life science and medical diagnosis, reflecting the current popular research directions in analytical science. The thematic forum covers topics such as ultra-fast molecular spectroscopy, new nuclear materials, microfluidics and cell analysis, surface analysis, environmental analysis, food safety, safe laboratory operation and third-party testing, etc.

This year's event added two international summits, i.e. the International Summit on Analytical Instrumentation and In Vitro Diagnosis and the International Summit on Scientific Instruments Development. It was the first attempt made by the organizer, China Association for Instrumental Analysis (CAIA) in BCEIA history to have such an addition. International Summit on Analytical Instrumentation and In Vitro Diagnosis focused on hot areas of research, such as life sciences and precision medicine, creating a platform for cross-disciplinary and cross-domain communication between analytical science and in vitro diagnosis. The International Summit on Scientific Instruments Development invited executives of renowned multinational companies to delivery keynote speeches on hot topics that are relevant to industry players including corporate financing, mergers & acquisitions, strategic transformation, etc.. There was also a lively discussion on the development of scientific instrument market at home and abroad during the panel discussion session attended by the keynote speakers.

The instruments exhibited at this year's exhibition are all very advanced, showcasing the application results of a number of cutting-edge technologies including artificial intelligence, Internet of Things (IoT) and quantum. Foreign exhibitors were actively showcasing new products. For example, the liquid chromatographs combining artificial intelligence and IoT can fully automate the analysis process, with the instrument and the hand-held terminal equipment interconnected, able to achieve real-time monitoring & early warning, and unattended analysis of the whole sequence; the gas chromatographs (including micro ones) are capable of intelligent interconnection. Users can check the instrument status from a PC or tablet computer anywhere and run a diagnostic program; and the inductively coupled plasma emission spectrometer (ICP-OES), combining intelligent algorithms and diagnostic functionality, is able to realize self-troubleshooting. And these are only a few examples.

The development of domestic scientific instruments attracted great attention, with the emergence of commercialized instruments such as terahertz time-domain spectrometer, 600MHz superconducting nuclear magnetic resonance spectrometer, pulse electron paramagnetic resonance spectrometer (EPR), high-performance nuclear magnetic resonance relaxation analyzer, triple quadrupole tandem mass spectrometer (LC-MS/MS),



proton transfer reaction mass spectrometer, microwave plasma solid-state analysis emission spectrometer, portable differential Raman spectrometer, dynamic multispectral analyzer (TGA-NIR-GC/MS), preparative supercritical fluid chromatography system, and high-performance microfluidic electric liquid chromatograph.

Apart from exhibition areas for traditional instruments, equipment, reagents, consumables and software information systems, the two featured exhibitions -"National Key Scientific Instrument and Equipment Project & Local Scientific Instrument Development Project Exhibition" and "Diversified Modular Laboratory Exhibition" also attracted significant attention.

To carry out the strategic requirements of "strengthening the country with talent" put forward by the central government, BCEIA 2019 held a forum on training and developing high-skilled instrumental analysis talents as well as talent exchange activities. The forum on training and developing high-skilled talent put forward some experience and suggestions for both the suppliers and demanders of talent, suggesting best practices on how to cultivate talent in an innovative way. During the talent exchange activity, nearly 70 instrument manufacturers, universities, scientific research institutions and testing organizations, etc. advertised nearly 1,000 jobs. In the recruitment and interview process, 21 general managers and 43 directors or above participated in person, with as many as 2,000 job seekers on-site.

The exhibition continued its traditional session on Analytical Instrument Rapid Testing Interactive Activities, with more than 20 exhibitors participating in 3 days. On-site experimental demonstrations included trace analysis of soil, water quality, agricultural products and cosmetics and other heavy metals, detection of illegally added ingredients of food additives, contact angle measurement, determination of volatile organic compounds in exhaled air for rapid screening of early diseases, rapid qualitative screening of controlled substances in suspected drugs, etc.

Several chief editors and deputy chief editors of Analytical Chemistry visited the exhibition and held a face-to-face meeting to advise young scholars on how to improve their scientific research and paper writing quality.

To facilitate visitors to attend the exhibition, BCEIA 2019 continued the previous years' practice of providing shuttle buses. For the first time, the organizing committee designed a number of visiting routes with special themes such as "BCEIA Gold Award" winning products, sample pretreatment, mass spectrometry instrument and so on, further enhancing the pertinence and convenience of attendance.

Due to the presence of media like China Daily, CCTV, CSTNET and other heavyweight media as well as the widespread use of BCEIA visual identity across the venue, brand awareness of BCEIA is further increased. Use of cloud photo album, live video broadcasting and other publicity methods helped all those not available to attend in person still feel the grandness of the occasion.

Trainees of the "International Training Course on Quality and Safety Testing Technology for Fruits Exported to China" from 10 countries along "the Belt and Road Initiative" route including Mongolia, Vietnam, Thailand, Bangladesh, India, Pakistan, Iran, Egypt, Nigeria and Sudan, as well as students from Beijing No.11 Middle School made group visits to the exhibition.

The commemorative book "40-Year Development of China's Instrumental Analysis Science and Technology" compiled by experts from many fields including quality inspection, agriculture, materials, environment, bio-medicine, as well as from Chinese Academy of Sciences, universities and other organizations and organized by CAIA, made its debut at BCEIA to great acclaim from the visitors.

Although this year's grand event has been concluded, its impact still continues to reverberate. From September 27 to 29, 2021, we will meet again in Beijing's China International Exhibition Center (Tianzhu New Exhibition Hall) to witness the next BCEIA!

China Association for Instrumental Analysis  
Nov. 2019

# BCEIA 2019

## 大会组织机构

### Organizational Structure



大会主席	
程津培	中国科学院院士 / 清华大学教授
大会副主席	
江桂斌	中国科学院院士 / 中国分析测试协会理事长
张学敏	中国科学院院士 / 中国分析测试协会副理事长
张 泽	中国科学院院士 / 浙江大学教授
张玉奎	中国科学院院士 / 中国科学院大连化学物理研究所研究员
张新荣	教授 / 中国分析测试协会副理事长兼秘书长
再帕尔·阿不力孜	教授 / 中国分析测试协会副理事长
田 禾	高级工程师 / 中国分析测试协会副理事长
刘成雁	研究员 / 中国分析测试协会副理事长

大会组委会主席	
张新荣	教授 / 中国分析测试协会副理事长兼秘书长

大会组委会副主席	
张渝英	研究员 / 中国分析测试协会常务副秘书长
庄乾坤	教授 / 国家自然科学基金委员会
刘虎威	教授 / 北京大学
李红梅	研究员 / 中国计量科学院研究院
马振珠	研究员 / 中国建材检验认证集团股份有限公司

Chairman	
Jinpei Cheng	Academician of CAS / Professor of Tsinghua University
Vice-Chairman	
Guibin Jiang	Academician of CAS / President of CAIA
Xuemin Zhang	Academician of CAS / Vice-President of CAIA
Ze Zhang	Academician of CAS / Professor of Zhejiang University
Yukui Zhang	Academician of CAS / Researcher of The Dalian Institute of Chemical Physics, CAS
Xinrong Zhang	Professor / Vice-President and Secretary General of CAIA
Zeper Abliz	Professor / Vice-president of CAIA
He Tian	Senior Engineer / Vice-president of CAIA
Chengyan Liu	Researcher / Vice-president of CAIA

Chairman of Organizing Committee	
Xinrong Zhang	Professor / Vice-President and Secretary General of CAIA

Vice-Chairman of Organizing Committee	
Yuying Zhang	Researcher / Executive Deputy Secretary General of CAIA
Qiankun Zhuang	Professor / National Science Foundation of China
Huwei Liu	Professor / Peking University
Hongmei Li	Researcher / National Institute of Metrology, China
Zhenzhu Ma	Researcher / China Building Material Test & Certification Group Co., Ltd



## BCEIA 2019 学术报告会

Academic Conference

BCEIA 2019 学术报告会主席由中国科学院院士、南京大学陈洪渊教授担任。共举行了包括大会特邀报告、分会报告、专题论坛、墙报、同期会议等多种形式的学术交流报告近 1000 场。大会报告及 10 个分会特邀报告专家 246 个，来自澳大利亚、新加坡、日本、美国、德国、韩国、加拿大、瑞士、英国、比利时、法国、南非、马来西亚、越南、巴西、印度尼西亚、泰国等多个国家和地区。

院士云集向来是 BCEIA 亮丽的一道风景线，今年也不例外，包括了程津培院士、詹启敏院士、江桂斌院士、张玉奎院士、汪尔康院士、陈洪渊院士、王海舟院士、张泽院士、张学敏院士、谢晓亮院士、刘忠范院士、杨秀荣院士、谭蔚泓院士、孙世刚院士、叶奇蓁院士、董绍俊院士、李景虹院士，以及加拿大皇家科学院乐晓春院士等。

## BCEIA 2019 学术委员会

BCEIA2019 Academic Committee

### 主席

陈洪渊 中国科学院院士 / 南京大学

### 副主席

谭蔚泓 中国科学院院士 / 湖南大学 / 美国佛罗里达大学  
江桂斌 中国科学院院士 / 中国科学院生态环境研究中心  
张玉奎 中国科学院院士 / 中国科学院大连化学物理研究所  
张学敏 中国科学院院士 / 军事科学院军事医学研究院  
张 泽 中国科学院院士 / 浙江大学

### 秘书长

张新荣 教授 / 清华大学

Prof. Hongyuan Chen of Nanjing University, Academician of Chinese Academy of Sciences, was the Chairman of the BCEIA 2019. The academic conference organized around 1000 academic presentations in various forms, including the plenary session, parallel sessions, special forums, posters, concurrent meetings, etc. 246 experts were specially invited to give lectures for the plenary session and the 10 parallel sessions. Presenters hailed from Australia, Singapore, Japan, the United States, Germany, South Korea, Canada, Switzerland, the United Kingdom, Belgium, France, South Africa, Malaysia, Vietnam, Brazil, Indonesia, Thailand and other countries and regions.

The gathering of many academicians has always been a special attribute of BCEIA, and this year was no exception. Attendees included the Chinese Academy of Sciences and the Chinese Academy of Engineering members Jinpei Cheng, Qimin Zhan, Guibin Jiang, Yukui Zhang, Erkang Wang, Hongyuan Chen, Haizhou Wang, Ze Zhang, Xuemin Zhang, Xiaoliang Xie, Zhongfan Liu, Xiurong Yang, Weihong Tan, Shigang Sun, Qizhen Ye, Shaojun Dong, Jinghong Li and RSC fellow Xiaochun Le.

### Chairman

Hongyuan Chen Member of CAS / Nanjing University

### Vice Chairmen

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

### Secretary-General

Xinrong Zhang Professor / Tsinghua University

来自

22个  
国家

2个  
地区

4400  
参会人数

8100  
听会人次

1000位  
报告人

620篇  
论文

300篇  
墙报



大会报告邀请了浙江大学张泽院士、厦门大学孙世刚院士、北京大学刘忠范院士、圣母大学 Norman J. Dovichi 教授、波士顿大学 Catherine E. Costello 教授、威斯康星大学麦迪逊分校 John Markley 教授、伊利诺伊大学香槟分校陆艺教授、阿尔伯塔大学乐晓春教授、德国联邦物理技术研究院 Bernd GÜTTLER 教授、台湾亚东纪念医院主治医师张智钧等 10 位国际知名的分析科学家分享前瞻性研究成果。

受邀出席的 10 位大会报告人均是来自各领域的国际知名学者。在会上，他们同与会代表分享学术成果，展望分析科学发展，其中有 5 个报告涉及到生命科学，通过不同手段来分析检测细胞、蛋白质、基因遗传等等。以“石墨烯产业化之路”、“国际单位制 SI 重新定义 - 以摩尔为例”、“肝癌新型生物标记物”等为代表的大会报告，紧扣时代脉搏，贴合前沿研究，反映了当前分析测试学术研究的最新动向和分析测试技术发展的热点内容，广受参会观众欢迎。

The plenary session invited 10 globally reputed analysis scientists, including Academician Ze Zhang of Zhejiang University, Academician Shigang Sun of Xiamen University, Academician Zhongfan Liu of Peking University, Prof. Norman J. Dovichi of Notre Dame University, Prof. Catherine E. Costello of Boston University, Prof. John Markley of the University of Wisconsin-Madison, Prof. Yi Lu of University of Illinois at Urbana-Champaign, and Prof. Xiaochun Le of University of Alberta, Prof. Bernd Güttler of Physikalisch-Technische Bundesanstalt and Mr. Zhijun Zhang, chief physician of Taiwan's Far East Memorial Hospital, to share their forward-looking research findings.

The 10 invited speakers are internationally renowned scholars from various fields. At the plenary session, they shared their academic progress with the participants, as well as their outlook on the development of analytical science. 5 presentations were related to life sciences, involving topics on using different methods to analyze and test cells, proteins, genetics, etc.. Presentations like "In-situ electron microscopy towards materials design and functional evolution", "New definition for units in chemistry - exactly", and "New Biomarkers for Hepatocellular Carcinoma", received a wide acclaim from the audience given their extreme relevance, as they reflect the latest trends of the academic research in the field of instrumental analysis and the hot topics regarding its future development.





主持人 / HOST

**江桂斌 院士**

中国分析测试协会理事长  
中国科学院生态环境研究中心

Academician Guibin Jiang  
President of CAIA  
Research Center for Eco- Environmental Sciences, CAS



主持人 / HOST

**张玉奎 院士**

中国分析测试协会科学技术委员会主任委员  
中国科学院大连化学物理研究所研究员

Academician Yukui Zhang  
Chairman of Science and Technology Committee, CAIA  
Researcher, Dalian Institute of Chemical Physics, CAS



主持人 / HOST

**汪尔康 院士**

BCEIA2019 学术委员会顾问  
中国科学院长春应用化学研究所

Academician Erkang Wang  
Advisor to BCEIA 2019 Academic Committee  
Changchun Institute of Applied Chemistry, CAS



主持人 / HOST

**刘虎威 教授**

BCEIA2019 组委会副主席  
北京大学教授

Prof. Huwei Liu  
Vice Chairman of BCEIA2019 Organizing Committee  
Professor of Peking University



开幕致辞 / OPENING REMARKS

**陈洪渊 院士**

BCEIA2019 学术委员会主席  
浙江大学教授

Academician Hongyuan Chen  
Chairman of BCEIA 2019 Academic Committee  
Professor of Zhejiang University



张泽 院士 / 浙江大学  
题目：原子尺度环境下原位电子显微学研究  
Academician Ze Zhang / Zhejiang University  
Title: In-situ electron microscopy towards materials design and functional evolution



孙世刚 院士 / 厦门大学  
题目：电化学能源过程的原位 / 工况谱学分析  
Academician Shigang Sun / Xiamen University  
Title: Analysis of Electrochemical Energy Processes by Developing In-situ/Operando Spectroscopy



刘忠范 院士 / 北京大学  
题目：石墨烯的产业化之路  
Academician Zhongfan Liu / Peking University  
Title: In-situ electron microscopy towards materials design and functional evolution



Norman J. Dovichi 教授 / 美国圣母大学  
题目：毛细管电泳结合下一代 DNA 测序用于微生物组的宏基因组分析  
Professor Norman J. Dovichi / University of Notre Dame  
Title: In-situ electron microscopy towards materials design and functional evolution



John Markley 教授 / 威斯康星大学麦迪逊分校  
Professor John Markley / University of Wisconsin-Madison  
Title: Human Frataxin and its Role in Iron Delivery during Biosynthesis of Iron-Sulfur Clusters



陆艺 教授 / 美国伊利诺伊大学香槟分校  
题目：功能化 DNA 纳米技术及其在环境监测、医学诊断和成像中的应用  
Professor Yi Lu / University of Illinois, Urbana-Champaign  
Title: Functional DNA Nanotechnology and its Applications in Environmental Monitoring, Medical Diagnostics and Imaging



Catherine E. Costello 教授 / 波士顿大学  
Professor Catherine E. Costello / Boston University  
Title: Mass Spectrometric Investigations of Molecular Details That Regulate Biological Functions



乐晓春 教授 / 阿尔伯塔大学  
题目：分析化学拓展环境健康研究的新视野  
Professor X. Chris LE / University of Alberta  
Title: Analytical advances enabling environmental health research



Bernd GÜTTLER 教授 / 德国联邦物理技术研究院  
题目：国际单位制 SI 的新定义——以摩尔为例  
Dr. Bernd GÜTTLER / Physikalisch-Technische Bundesanstalt  
Title: New definition for units in chemistry - exactly



张智钧 主治医师 / 台湾亚东纪念医院  
题目：肝癌的新型生物标记物  
Chih-Chun Chang, MD / Far Eastern Memorial Hospital  
Title: New Biomarkers for Hepatocellular Carcinoma



## BCEIA 2019 分会报告

### Parallel Sessions

在分会报告环节，电子显微学及材料科学、质谱学、光谱学、色谱学、磁共振波谱学、电分析化学、生命科学中的分析技术、环境分析、化学计量与标准物质以及标记免疫分析10个分会共组织了315个报告。

电子显微学及材料科学分会围绕“显微学加速材料进化”主题和“材料界面、表面和缺陷、显微结构与功能材料、显微方法学”四个专题方向，集中探讨国际前沿新理念、新技术。

质谱学分会围绕“质谱助力健康生活”主题和“基础理论与方法、新仪器与新技术、生命科学与组学、环境与能源分析、食品安全与药物分析、临床质谱”六个专题方向，探讨国际前沿新理念、新技术、新方法。

光谱学分会围绕“涌现的机会”主题和“新思路：分子及原子光谱、新应用：光谱分析与材料、新方法：高分辨光学成像、新仪器：光谱仪与显微镜”四个专题，探讨国际前沿新理念、新应用、新方法。

色谱学分会围绕“分离分析谱写健康未来”主题和“样品制备方法、高效分离方法、高灵敏检测方法、色谱应用”四个专题，探讨新材料、新方法，多维、CE、高效分离材料，在线联用技术(LC-MS、CE-MS)，在复杂体系定性和定量分析中的应用(组学、手性分离、活体分析以及单细胞检测等)。

波谱学分会围绕“波谱学原理与技术的发展和应用”主题和“生物核磁共振专题、电子顺磁共振专题、原位磁共振专题、磁共振成像专题、代谢学专题、磁共振分析新方法专题”六个专题，集中探讨该领域的前沿技术和方法。

电分析化学分会围绕“电分析化学的发展与未来”主题和“生物电分析化学、生物传感、纳米电化学、单分子检测、单细胞分析化学、电化学联用技术”六个专题，集中探讨该领域的前沿理念、技术和方法。

生命科学中的分析技术分会围绕“关注生命，聚焦方法”主题和“单分子单细胞单颗粒分析、精准医学分析与医疗诊断、组学分析、健康与安全”四个专题方向，集中探讨生命科学中分析技术发展的国际前沿新理念、新技术、新方法，主要涉及单细胞中的纳米颗粒分析表征、流式细胞术、DNAzyme、微流控芯片、肽库、高通量单细胞测序、基因组学、蛋白质组学、代谢组学、生物传感和高效分离分析技术的最新研究进展，并设立了一场Analytical Chemistry 杂志编辑见面会。

环境分析分会围绕“大数据连接环境与生活”主题和“环境分析化学、环境毒理及健康效应、环境化学过程、大气细颗粒物、PM 2.5”五个专题方向，探讨该领域的新技术、新方法。

化学计量与标准物质分会围绕“精准改变世界，计量增进互信”主题和“标准物质与化学计量新技术、临床诊断与生物医药、环境分析与计量、食品安全计量”四个专题方向，集中探讨该领域的前沿技术和方法。

标记免疫分会围绕“创新转化精准诊断”主题和“标记免疫技术、基因检测技术、生物材料”三个专题方向，集中探讨该领域的新技术、新应用。

2019年，Analytical Scientist 公布了全球最有影响力的分析科学家TOP100名单，排名第1位的美国伊利诺依大学香槟分校Jonathan Sweedler教授、排名第14位的美国圣母大学Norman J.Dovich教授受邀在BCEIA学术报告会上作了报告。此外，名单中的中国学者代表刘虎威教授、许国旺研究员、李攻科教授、李灵军教授、方晓红研究员等也悉数到场。



315 presentations were made during 10 parallel sessions related to topics of electron microscopy and material science, mass spectrometry, optical spectroscopy, chromatography, magnetic resonance spectroscopy, electro-analytical chemistry, analytical techniques in life sciences, environmental analysis, chemical metrology and reference materials, as well as labeled immunoassay.

The parallel session of Electron Microscopy and Material Science focused on the theme of "Microscopy Accelerates Material Evolution" and the four thematic directions of "material interface, surface & defect, microstructure & functional materials and microscopic methodology" to discuss new concepts and technologies at the forefront of global research.

The parallel session of Mass Spectrometry focused on the theme of "Mass Spectrometry Helps a Healthy Life" and the six thematic directions of "Basic Theories & Methods, New Instrument & Technologies, Life Science & Omics, Environment & Energy Analysis, Food Safety & Drug Analysis and Clinical Mass Spectrometry" to explore new concepts, new technologies and new methods at the international forefront.

The parallel session of Optical Spectroscopy focused on the theme of "Emerging Opportunities" and the four topics of "New Ideas": Molecular & Atomic Spectra; New Applications: Spectral Analysis & Materials; New Methods: High-resolution Optical Imaging; New Instrument: Spectrometers & Microscopes" to explore new concepts, new applications and new methods at the leading edge of global research.

The parallel session of Chromatography focused on the theme of "Separation Analysis Makes a Healthy Future" and the four topics of "Sample Preparation Method, High-Efficiency Separation Method, High-Sensitivity Detection Method and Chromatographic Application" to explore the application of new materials, new methods, multi-dimensional, CE & high-performance separation materials and online coupling technologies (LC-MS, CE-MS) to the qualitative and quantitative analysis of complex systems (omics, chiral separation, in vivo analysis and single cell detection, etc.).

The parallel session of Magnetic Resonance Spectroscopy focused on the theme of "Development and Application of Spectroscopy Principles and Technologies" and six topics of "Biological Nuclear Magnetic Resonance, Electron Paramagnetic Resonance, In-situ Magnetic Resonance, Magnetic Resonance Imaging, Metabolism and New Methods of Magnetic Resonance Analysis" to discuss the cutting-edge technologies and methods in this field.

The parallel session of Electro-analytical Chemistry focused on the theme of "Development and Future of Electro-analytical Chemistry" and the six topics of "Bioelectrical Analytical Chemistry, Biosensors, Nano-Electrochemistry, Single Molecule Detection, Single Cell Analytical Chemistry and Combined Electrochemical Technology" to explore the cutting-edge concepts, technologies and methods in this field.

The parallel session of Analytical Techniques in Life Science focused on the theme of "Focus on Life, focus on Methods" and the four thematic directions of "Single Molecule & Single Cell & Single Particle Analysis, Precision Medicine Analysis & Medical Diagnosis, Omics Analysis, Health & Safety" to explore new concepts, new technologies and new methods of analytical technology development in life sciences at the international frontier. It focused mainly on international cutting-edge new theories, new technologies and new methods for analytical technology development in life sciences, mainly involved in latest research progress in nanoparticle analysis and characterization, flow cytometry, DNAzyme, microfluidic chip, peptide library, high-throughput single cell sequencing, genomics, proteomics, metabolomics, biosensors and high-efficiency separation and analysis technologies in single cells, with a face-to-face meeting held by the editors from the magazine Analytical Chemistry.

The parallel session of Environmental Analysis focused on the theme of "Big Data Connecting Environment and Life" and the five thematic directions of "Environmental Analysis Chemistry, Environmental Toxicology & Health Effects, Environmental Chemical Processes, Atmospheric Fine Particles and PM 2.5" to explore new technologies and new methods in this field.

The parallel session of Chemical Metrology and Reference Materials focused on the theme of "Precision Changes the World, Measurement Enhances Mutual Trust" and the thematic directions of "New Technologies for Reference Materials & Chemical Metrology, Clinical Diagnosis & Biomedicine, Environmental Analysis & Measurement and Food Safety Measurement" to explore cutting-edge technologies and methods in this field.

The parallel session of Labeled Immunoassay focused on the theme of "Innovation Transforms Precision Diagnosis" and the three thematic directions of "Labeled Immunoassays Technology, Gene Detection Technology, Biomaterials" to explore cutting-edge technologies and methods in this field.

In 2019, Analytical Scientist released the Top 100 List of the world's most influential analytical scientists(The Power List). Prof. Jonathan Sweedler of University of Illinois at Urbana-Champaign (ranked No.1) and Prof. Norman J.Dovich of University of Notre Dame (ranked No.14) were invited to give lectures at the BCEIA Academic Conference. In addition, all the Chinese scholars on the list, including Prof. Huwei Liu, Researcher Guowang Xu, Prof. Gongke Li, Prof. Lingjun Li and Researcher Xiaohong Fang were present.





# Analytical Chemistry

杂志编辑见面会  
Meet the Editor

10月25日中午13:00-14:15, 生命分会成功举办了《Analytical Chemistry》杂志编辑见面会(《Analytical Chemistry》: Meet the Editor), 主编 Jonathan V. Sweedler 教授、副主编张新荣教授、Chris X.C. LE (乐晓春) 教授为青年学者就学术论文准备、投稿、同行评审方面提供了积极建议和分享了宝贵经验, 现场提问气氛十分热烈, 《Analytical Chemistry》杂志编辑和青年学者、研究生等进行了积极的交流互动。

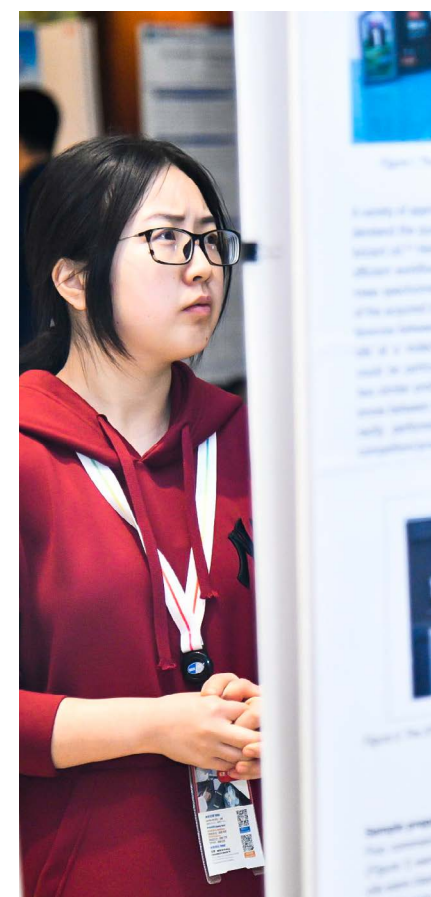
From 13:00 p.m. to 14:15 p.m. on October 25, the parallel session on Analytical Techniques in Life Sciences successfully held a face-to-face meeting with the editors from Analytical Chemistry ("Analytical Chemistry: Meet the Editor"). The Editor-in-chief - Prof. Jonathan V. Sweedler, the Deputy Editor-in-chief - Prof. Xinrong Zhang and Prof. Chris X.C. LE (Xiaochun Le) provided positive suggestions and shared their valuable experience with young scholars on the preparation, submission and peer review of academic papers. The atmosphere for on-site questioning was very warm. The editors of Analytical Chemistry had active exchanges and interactions with young scholars and graduate students.



## BCEEIA 2019 墙报展 POSTERS

本届 10 个分会共收到 600 余篇学术论文, 其中录用墙报 300 篇。共评选出 30 篇优秀报展。值得一提的, 本次 BCEEIA 2019 优秀报展奖由美国化学会与中国分析测试协会共同颁发, 进一步增添了这一荣誉权威性 & 影响力。

The 10 parallel sessions received more than 600 academic papers, including 300 wall posters at BCEEIA 2019. A total of 30 outstanding posters were selected. It is worth mentioning that the BCEEIA 2019 Outstanding Poster Presentation Award was jointly presented by the American Chemical Society and the China Association for Instrumental Analysis this year, lending the award additional prestige and honor.





# BCEIA 2019 国际高峰论坛

## International Summits

国际高峰论坛的举办对于中国分析测试协会、BCEIA 来说是一个全新的尝试。来自国内外的知名学者与科学仪器制造精英齐聚一堂，就医学诊断及分析测试技术、中国科学仪器行业现状、等话题分享成果，深入探讨，这是 BCEIA 思考行业发展的第一步，是我们开启的崭新篇章。

会议组织上，两个国际高峰论坛尝试了图文直播、视频直播等传播手段，为场外未能参会的观众提供会议实况播报，23 日直播观看量达到 1.2 万次，最高峰同时在线 1273 个 IP。

会议宣传上，设立了两个国际高峰论坛的专题页面，对会议、报告人、主持人、报告内容进行前期宣传，并对 7 位报告人、主持人进行了前期专访并发布。根据不完全统计，每篇会前宣传报道平均点击量达到 4199 次，会后报道点击量每篇不低于 2063 次。

It was a new attempt and fresh start for CAIA and BCEIA to organize international summits. Well-known scholars from China and abroad as well as scientific instrument manufacturing leaders gathered together to share their achievements and hold discussions on medical diagnosis, related analysis and testing technologies, the status quo of China's scientific instrument industry, and other topics. This was a first step for BCEIA to tackle industry related topics. It is a beginning but not an end.

On the aspect of organization, the two international summits utilized communication methods such as live graphic broadcasting and live video broadcasting to provide live reporting to the audience who could not attend the summits. The total number of live views reached 12,000 on the 23<sup>rd</sup>, with a peak of 1,273 IP addresses online simultaneously.

On the aspect of summit publicity, special web pages were launched to provide preliminary coverage on the summits, keynote speakers, hosts and contents. Seven keynote speakers and hosts were interviewed and related articles were published in advance. According to currently available statistics, the average click rate for each pre-conference publicity report reached 4,199 clicks, and the click rate for each post-conference report was not less than 2,063 clicks.



10 月 23 日上午举办的“分析检测与体外诊断国际高峰论坛”由中国分析测试协会、中国分析测试协会标记免疫分析专业委员会、中国分析测试协会质谱分会主办。论坛聚焦生命科学、精准医学等热点研究领域，将分析科学与体外诊断两个不同学科融合起来，力求打造一个跨学科交流的平台，从而帮助分析科学家、临床和测试从业者进行交流与探讨，促进“健康中国”大战略的实施与发展，是 BCEIA 进行的首次跨学科、跨领域尝试。

The "International Summit on Analytical Instrumentation and In Vitro Diagnosis" held on the morning of October 23 was sponsored by CAIA, the Labeled Immunoassay Committee of CAIA and the Mass Spectrometry Branch of CAIA. The summit focused on currently popular research fields such as life science and precision medicine. It integrated the two different disciplines of analytical science and in vitro diagnosis, aiming to create an interdisciplinary communication platform, enabling analytical scientists, clinical and testing practitioners to communicate and discuss, and to promote the implementation and development of the "Healthy China" initiative. It was the first interdisciplinary and cross-domain attempt at BCEIA.



特邀报告嘉宾 /Keynote Speaker

詹启敏 教授

北京大学常务副校长 / 医学部主任  
北京大学深圳研究生院院长  
中国工程院院士

报告题目：“科技创新与医学发展”

Qimin Zhan, MD  
Executive Vice President, Peking University  
President, Peking University Health Science Center  
President, Peking University Shenzhen Graduate School  
Member, Chinese Academy of Engineering  
Title: Technology Innovation and Hospital Development



特邀报告嘉宾 /Keynote Speaker

谢晓亮 教授

北京大学李兆基讲席教授  
北京大学生物医学前沿创新中心主任  
北京未来基因诊断高精尖创新中心主任  
美国国家科学院院士  
美国国家医学院院士  
美国艺术与科学院院士  
中国科学院外籍院士

报告题目：“单细胞组学：解码人类功能基因组”

Xiaoliang Sunney Xie  
Lee Shau-kee Professor, Peking University  
Director, Biomedical Pioneering Innovation Center, Peking University  
Director, Beijing Advanced Innovation Center for Genomics  
Member, US National Academy of Sciences  
Member, US National Academy of Medicine  
Member, American Academy of Arts and Sciences  
Foreign member, Chinese Academy of Sciences  
Title: Single Cell Omics: Decoding the Functional Human Genome





特邀报告嘉宾 / Keynote Speaker

鲁立 先生

深圳普门科技股份有限公司

报告题目：“电化学发光免疫分析及临床应用”

Mr. Li Lu

Lifotronic Technology Co., Ltd

Title: Electrochemiluminescence Immunoassay and Its Application



特邀报告嘉宾 / Keynote Speaker

Emmanuelle Claude 女士

美国沃特世公司首席科学家（健康科学）

报告题目：“质谱成像技术在生物医学研究上的进展”

Miss Emmanuelle Claude

Principal Scientist (Health Sciences Business)

Waters Corporation

Title: Advancements in MS imaging for Biomedical Research



特邀报告嘉宾 / Keynote Speaker

虞留明 先生

苏州博源医疗科技有限公司董事长兼首席执行官

报告题目：均相酶免疫（HEIA）技术在小分子检验中的应用

Mr. Liuming Yu

Chairman & CEO

Suzhou Evermed Biomedical Co., Ltd

Title: Applications of Homogeneous Enzyme Immunoassay (HEIA) for Small Molecule Testing



主持人 / Host

刘虎威 教授

北京大学化学与分子工程学院

中国分析测试协会副秘书长

BCEIA2019 大会组委会副主席

Huwei Liu

Professor, College of Chemistry and Molecular Engineering, Peking University

Deputy Secretary General, CAIA

Vice Chairman, BCEIA2019 Organizing Committee



主持人 / Host

颜光涛 研究员

解放军总医院第一医学中心医学检验中心副主任

中国分析测试协会标记免疫分析专业委员会主任委员

Guangtao Yan

Researcher, Deputy Director, Center for Clinical Laboratory Medicine, First

Medical Center, PLA General Hospital

Chairman of Labeled Immunoassay Committee, CAIA

5 位特邀报告嘉宾就基因组学与单细胞组学的紧密联系、电化学发光免疫分析及临床应用、质谱成像技术在生物医学研究上的进展、和均相酶免疫（HEIA）技术在小分子检验中的应用等前沿理论、技术与应用，为与会代表们做了精彩纷呈的主旨报告。

Five specially invited keynote speakers made engaging keynote reports for the delegates on the close relationship between genomics and unicellular omics, the electrochemical luminescence immunoassay & its clinical application, the progress of mass spectrometry imaging technology in biomedical research, and the application of homogeneous enzyme immunoassay (HEIA) technology in small molecule detection, and other leading theories, technologies and applications.



论坛邀请了中国分析测试协会副理事长，中国科学院院士张学敏；中国分析测试协会副理事长、中央民族大学副校长再帕尔·阿不力孜教授；中国分析测试协会标记免疫分析专业委员会敬华、陈建魁、朱美财、于勇、郭建巍、杨晓莉、王会中、张云林、刘向祎、张岩、陈兴明、高艳红作为参会嘉宾出席。

同时，邀请到了 500 余位来自中国医学科学院、中国科学院化学研究所、中国环境科学研究院、中国检验检疫科学研究院、中国食品药品检定研究院、国家纳米科学中心、北京市结核病胸部肿瘤研究所、中国人民解放军总医院、北京协和医院、北京朝阳医院、北京市第一中西医结合医院、清华大学、北京大学、中国科学院大学、上海交通大学、北京理工大学、北方工业大学、中央民族大学、中国石油大学、南京大学、天津医科大学、河北农业大学、安捷伦、岛津、赛默飞、珀金埃尔默、沃特世科技、海光仪器、海能仪器、江苏天瑞仪器等科研院所、高校、医院、知名企业的老师、专家、学者们参加此次论坛。

The Summit invited Prof. Xuemin Zhang, Vice-President of CAIA and Academician of the Chinese Academy of Sciences, Prof. Zeper ABLIZ, Vice-President of CAIA and Vice-President of Minzu University of China, and members of the Labeled Immunoassay Committee of CAIA Hua Jing, Jiankui Chen, Meicai Zhu, Yong Yu, Jianwei Guo, Xiaoli Yang, Huizhong Wang, Yunlin Zhang, Xiangyi Liu, Yan Zhang, Xingming Chen and Yanhong Gao as honored guests.

顶级学者参与的分析检测与体外诊断国际高峰论坛吸引青年学生“朝圣”

The International Summit on Analytical Instrumentation and In Vitro Diagnosis, with the presence of Labeled scholars, attracted many young students to “make a pilgrimage.”





More than 500 professors, experts and scholars from the Chinese Academy of Medical Sciences, Institute of Chemistry of Chinese Academy of Sciences, Chinese Research Academy of Environmental Sciences, Chinese Academy of Inspection and Quarantine, National Institutes for Food and Drug Control, National Center for Nanoscience and Technology, Beijing Tuberculosis and Thoracic Tumor Research Institute, Chinese PLA General Hospital, Peking Union Medical College Hospital, Beijing Chao-Yang Hospital, Beijing First Hospital of Integrated Chinese and Western Medicine, Tsinghua University, Peking University, University of Chinese Academy of Sciences, Shanghai Jiao Tong University, Beijing Institute of Technology, North China University of Technology, Minzu University of China, China University of Petroleum, Nanjing University, Tianjin Medical University, Hebei Agricultural University, Agilent, Shimadzu, Thermo Fisher, PerkinElmer, Waters, Haiguang Instrument, Hanon Instruments, Jiangsu Skyray Instrument and other scientific research institutes, universities, hospitals and well-known enterprises participated in the summit.



近年来，中国分析测试市场呈现高速发展态势，分析测试仪器的需求量不断增高。

统计显示，2017~2020 年中国分析测试仪器市场需求的预期年增长率为 7.3%，为全球最高，是全球平均值的 1.6 倍，到 2022 年中国市场需求将达 88 亿美元。

面对科学仪器市场环境的风云变幻，为了在竞争日益加剧的分析测试市场上立足，业内企业并购与重组频繁，同时，众多企业也在扩大研发投入、向更具发展前景的细分市场转型。BCEIA 作为一个行业盛会，更是一个交流的平台，中国分析测试协会迫切感受到需要为整个行业，包括科学仪器制造企业和科研工作者起到更强导向作用。“科学仪器发展国际高峰论坛”在万众瞩目下于 10 月 23 日下午盛大召开，从行业发展的角度同与会人员展开探讨。论坛特别邀请到中国分析测试协会理事长、中国科学院生态环境研究中心江桂斌院士，以及安捷伦、岛津、珀金埃尔默、堀场四家知名跨国企业的高管，就企业融资、并购、重组、转型、研发及战略发展等热点问题，结合国内发展现状与国际趋势，分享经验、化解困惑、展望未来，为中国分析测试行业发展提供启示。

In recent years, China's instrumental analysis market has shown a rapid development trend, and the demand for analytical instruments is ever increasing.

Statistics reveal that the annual growth rate of China's instrumental analysis market is 7.3% from 2017 to 2020, which is the highest in the world, and 1.6 times of the global average. Market demand is expected to reach USD 8.8 billion in 2022.

In the face of the changing environment within the scientific instrument market, mergers & acquisitions and restructuring are becoming a common practice as companies attempt to gain a foothold in the increasingly competitive market. At the same time, many companies are also increasing their research & development investment and attempting to enter market segments that are more promising. BCEIA is not just a prominent industry event, also a platform for industry communication. Being the organizer of BCEIA, CAIA is keenly aware of the need to play a stronger leadership role for the entire industry, including scientific instrument manufacturers and researchers. With this intension, the International Summit on Scientific Instruments Development was successfully held on the afternoon of October 23, where

speakers and audience members had a lively discussion around the industry's development. The forum specially invited Prof. Guibin Jiang, President of CAIA and academican of the Research Center for Eco- environmental Sciences, Chinese Academy of Science, as well as top executives of four well-known multinational companies (Agilent, Shimadzu, PerkinElmer and Horiba) to speak on hot topics around corporate financing, mergers and acquisitions, business restructuring and transformation, R&D and strategic development, and share their perspectives on the current condition and level of development of the domestic market development status along with international development trends. Their experience and knowledge sharing helped audience develop a stronger understanding and look forward to the future, providing a clear picture of the development of China's instrumental analysis industry.





特邀报告嘉宾 / Keynote Speaker

江桂斌 院士

中国分析测试协会理事长  
中国科学院生态环境研究中心

报告题目：我国分析仪器发展的机遇和挑战

Academician Guibin Jiang,  
President, China Association for Instrumental Analysis  
Research Center for Eco- environmental Sciences of CAS  
Title: Opportunities and Challenges of Analytical Instruments in China



特邀报告嘉宾 / Keynote Speaker

Mike McMullen 先生

全球总裁兼首席执行官  
安捷伦科技公司

报告题目：“安捷伦科技 - 分析实验室的未来”

Mr. Mike McMullen  
President & CEO  
Agilent Technologies, Inc.  
Title: Agilent Technologies-Future of Analytical Lab



特邀报告嘉宾 / Keynote Speaker

上田辉久 博士

代表董事，社长及首席执行官  
株式会社 岛津製作所

报告题目：以科学技术创造新价值以及为社会做贡献 ~ 对未来的展望 ~

Dr. Teruhisa UEDA  
Representative Director, President & CEO  
Shimadzu Corporation  
Title: Creating New Value and Contributing to Society Through Science and Technology : A View to the Future



特邀报告嘉宾 / Keynote Speaker

金南勳 先生

应用市场全球副总裁兼总经理  
珀金埃尔默公司

报告题目：珀金埃尔默：笃行致远 历久弥新

Mr. Nam-Hoon Kim  
PerkinElmer, Inc.  
Title: PerkinElmer: Making Life Better in China for Over 40 Years  
Vice President and General Manager of Applied Markets



特邀报告嘉宾 / Keynote Speaker

堀场厚 先生

董事长会长兼集团首席执行官  
株式会社 堀场製作所

报告题目：堀场的全球化经营和独特的企业文化

Mr. Atsushi Horiba  
Chairman & Group CEO  
HORIBA, Ltd.  
Title: HORIBA's Global Business and Unique Company Culture



主持人 / Host

张新荣 教授

中国分析测试协会副理事长秘书长  
清华大学

Prof. Xinrong Zhang  
Vice-President & Secretary General, CAIA  
Tsinghua University

论坛首先由中国分析测试协会理事长、江桂斌院士做综述性报告，江桂斌院士指出，社会发展对分析仪器提出了在线、原位、实时、成像、快速、高通量、低成本等越来越高的要求。尽管当前中国生产的分析仪器有了长足进步，但仍存在真正原创性的仪器少、仪器稳定性和可靠性有所欠缺、售后服务与整体化解决方案不足、满足不了国家和社会需求等诸多问题，但随着国家对科学仪器研发战略投入的持续加大，我国分析仪器仍面临前所未有的发展机遇。因此更需要对科学仪器原理、新技术、新设计、新工艺进行原始创新；围绕高端通用仪器设备需求开展集成创新，攻克核心技术和关键部件；加强重大装备、重大技术的引进消化再吸收；在涉及国计民生的食品、环保、公共安全等民用领域推广科学仪器的应用。惟有源头创新和国家目标并重，才是提高我国分析仪器水平的有效途径。

随后 4 位特邀报告嘉宾分别作了主旨报告，就市场发展趋势以及自身企业在中国市场的发展及战略进行了详尽的阐述。论坛同时采用专题讨论的方式，邀请几位报告人围绕 1、全球科学仪器市场发展趋势及影响因素；2、如何看待仪器后市场服务；3、中国生命科学市场前景如何；4、中国科学仪器市场需求发生哪些变化；5、建立中国企业如何参与到全球化发展中等问题展开了热烈的讨论。

嘉宾们一致认为关注微型化 / 便携化仪器的研制、提升仪器企业的服务质量、贴近用户实际需求、打造全流程的整体解决方案将是未来大势所趋。而对于全球生命科学市场，嘉宾们同样认为大有可为。



主持人 / Host

方向 研究员

中国计量科学研究院院长

Xiang Fang, Researcher  
Director General  
National Institute of Metrology (NIM)

Guibin Jiang, Academician of CAS and President of CAIA, made the first presentation at the summit in which he pointed out that social development has set higher and higher requirements on analytical instruments such as the availability of online, in-situ, real-time, imaging, fast, high-throughput, low-cost features, etc.. Although analytical instruments produced in China have made great progress, there are still very few original instruments. Domestically made instruments can't meet many of China's public and private needs because their stability and reliability is still not very satisfactory, their after-sales services are insufficient, and there is lack of integrated solutions. However, as the country's investment in scientific instrument R&D continues to increase, China's analytical instruments have unprecedented opportunities for development and growth. Therefore, it is necessary to carry out original innovation on scientific instrument principles, new technology, new design and new process; carry out integrated innovation to meet high-end general equipment requirements, tackle the bottleneck of core technologies and key components; strengthen the introduction and adoption of major equipment and major technologies; expand the application of scientific instruments in civilian areas such as food, environmental protection, and public security which directly affect the national economy and daily lives of the average person. Only by integrating source innovation with national priorities can we effectively improve the level of analytical instruments in China.

Subsequently, the remaining four invited speakers gave keynote speeches elaborating on the market development trend and the development and strategy of their own companies in the Chinese market. 5 keynote speakers later joined a panel discussion where they shared their views on the development trend and impacting factors of the global scientific instrument market, the after-market services of scientific instruments, the prospects of future life sciences market, the demand change for scientific instruments in China, and how Chinese instrument companies participate into the global market.

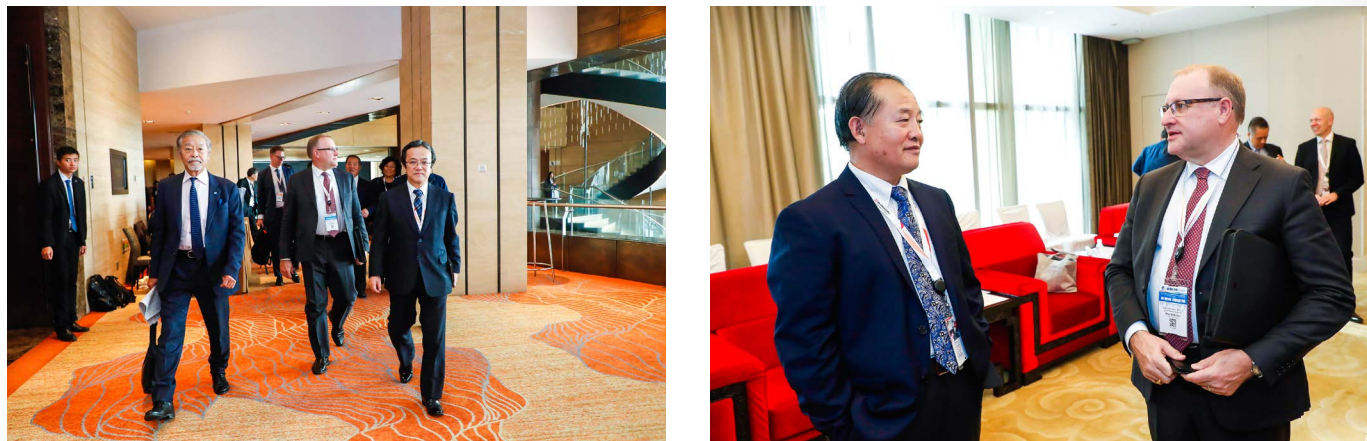
The panelists agreed that developing smaller and more portable instruments, improving the service quality of instrument companies, meeting the actual needs of users, and providing integrated total solutions will be the trends of the future. As for the global life science market, the panelists also think that there is much to offer.





知名科学家、跨国企业高管汇聚 BCEIA2019 科学仪器发展国际高峰论坛

Globally reputed scientists, multinational company executives gathered at BCEIA2019 International Summit on Scientific Instruments Development



中国分析测试协会副理事长兼秘书长张新荣教授、中国计量科学研究院院长方向研究员主持高峰论坛。中国分析测试协会科学技术委员会主任委员张玉奎院士、副主任委员王海舟院士，副理事长刘成雁教授、田禾研究员，常务副秘书长张渝英研究员作为参会嘉宾出席。同时邀请到了日本 JAIMA、美国 Pittcon、日本 JSIA、英国 Gambica 等 BCEIA 国外合作团体相关负责人，岛津、安捷伦、珀金埃尔默、堀场、天美、普析通用、宝德、梅特勒-托利多、Bronkhorst、IDEX 等国内外众多知名企业负责人，中国农业科学院、中国计量科学研究院、冶金工业信息标准研究院、北京理工大学、北方工业大学、北京科技大学、中医药大学等科研院所、高校的专家、学者们，以及 IOP 英国物理学会出版社、招商银行、民生银行、奥尔布赖特石桥集团等专业期刊、融资机构、咨询机构等相关负责人 400 余人共同出席了本次论坛。

Professor Xinrong Zhang, Vice-president and Secretary General of CAIA, and Xiang Fang, Director General of National Institute of Metrology (NIM), chaired the summit. Academician Yukui Zhang, Chairman of the Science and Technology Committee of CAIA, Academician Haizhou Wang, Vice Chairman of the Science and Technology Committee of CAIA, Prof. Chengyan Liu, Vice-President of CAIA, Prof. He Tian, Vice-President of CAIA, and Yuying Zhang, Researcher, Deputy Secretary General of CAIA were present as special guests. Leaders of BCEIA foreign cooperative partners, such as JAIMA from Japan, Pittcon from the United States, JSIA from Japan, and Gambica from the United Kingdom, and executives from well-known domestic and international enterprises including Shimadzu, Agilent, PerkinElmer, Horiba, Techcomp, PERSEE General, Baode Instruments, METTLER- TOLEDO, Bronkhorst, IDEX, experts and scholars from the Chinese Academy of Agricultural Sciences, National Institute of Metrology, China, China Metallurgical Information and Standardization Institute, Beijing Institute of Technology, North China University of Technology, University of Science and Technology Beijing, Beijing University of Chinese Medicine and other research institutes, and representatives from professional journal associations, financing institutions, consulting firms, such as IOP Publishing, China Merchants Bank, Minsheng Bank, Albright Stonebridge Group, attended the forum with total attendance of more than 400 people.



《China Daily》预报 BCEIA2019 会议  
China Daily gave a preliminary coverage on BCEIA2019 Conference & Exhibition



PS：精彩错过？  
快快扫描二维码登录 BCEIA 云视频平台，  
重温 BCEIA2019 科学仪器发展国际高峰论坛精彩回放





## BCEIA 2019 论坛及同期会议

### Special Forums and Concurrent Meetings

BCEIA 专题论坛及同期会议作为学术报告会重要的组成部分，是政府代表、专家、展商研发代表、青年学者轻松交流的根据地，畅谈分析科学前沿技术，解读相关政策及规范。涉及质谱、色谱、光谱、波谱、电子显微镜等学术领域，话题紧贴食品安全、生物工程中的应用、新材料测试及评价、细胞分析、表面分析、实验室建设及运行保障、科学仪器新产品新技术应用等热点，广受与会者好评。

其中，“第二届食品安全风险监控高峰论坛”则是重点专题论坛之一，从事食品安全及检验检测相关领域的著名专家齐聚一堂，就食品安全风险监控政策、食品安全新技术进展及相关设备进展、行业发展态势等展开广泛的交流讨论，吸引超过 300 多位学者、行业相关从业者与会。

随着分析技术在生命科学领域的广泛应用，本届 BCEIA 专题论坛有多场报告聚焦细胞分析、生物工程、医疗诊断、蛋白质组学、生物成像等生命科学前沿技术。细胞是生物体最基本的结构单元和功能单元，细胞的研究是生命科学研究的基础，更是本届专题论坛中热点的话题。“微流控与细胞分析论坛”针对微流控芯片的广泛应用为话题讨论，邀请 11 位分析化学、生命科学等领域国内外知名学者，报告国内外最新的研究成果和发展趋势，为从事微流控和细胞研究的学者、工程技术人员、青年学生提供一个特色鲜明、学术水平高的交流机会。而由陆军军医大学基础医学院生物医学分析测试中心主办的“细胞自动化检测技术及应用论坛”以细胞检测技术为切入点，围绕流式细胞技术、细胞自动化检测、多色流式检测等热点应用及前沿进展开展学术交流，展望实现全基因组功能分析、药物 / 分子筛选等工程化研究。

第二届中国青年科学家论坛由中国分析测试协会青年学术委员会主办，邀请近两年中国分析化学领域 10 位国家杰出青年科学基金获得者，围绕生命科学、材料分析、环境科学等学术领域最新方法、最新技术及最新应用进行分享和交流。

As an important segment of the academic conference, the BCEIA special forums and the concurrent meetings were spaces where government representatives, experts, exhibitors' R&D representatives, and young scholars gathered together to freely discuss about cutting-edge technologies and interpret relevant policies and regulations related to mass spectrometry, chromatography, spectroscopy, electron microscopy, etc., involving hot topics around food safety, bioengineering applications, new material testing and evaluation, cell analysis, surface analysis, laboratory construction and operation support, new scientific instrument products and new technology applications. These meetings received high praise from the participants.

The Second Food Safety Risk Monitoring Summit is one of the key special forums where famous experts in the field of food safety and quality inspection and testing gathered together to have deep discussions around food safety risk management policies, new food safety technologies and related equipment, as well as development of the overall industry, which attracted more than 300 scholars and industry practitioners.

With the wide application of analytical technology in the field of life sciences, this year's BCEIA special forums featured many reports focusing on life science frontier technologies such as cell analysis, bioengineering, medical diagnosis, proteomics, and bio-imaging. The cell is the most basic structural unit and functional unit of the organism. The research of the cell is the foundation of life science research, and it was also a hot topic at this year's special forums. The Microfluidics and Cellular Analysis Forum focused on discussions around the wide application of microfluidic chips. 11 well-known scholars in the fields of analytical chemistry and life sciences were invited to report the latest research results and development trends in both China and abroad, providing a unique opportunity for high-level academic exchanges for scholars, engineers, technicians, and young students engaging in the study of microfluidics. The Cellular Automated Detection Technology and Application Forum hosted by the Biomedical Analysis and Testing Center of the School of Basic Medical Science of the Third Military Medical University ignited academic exchanges on hot applications and the research frontiers within flow cytometry, automated cell detection, and multicolor flow detection, and put forward the outlooks for realizing engineering researches such as whole-genome functional analysis and drug/molecular screening.

The 2nd China Young Scientists Forum, hosted by CAIA Young Scholars Academic Committee, invited 10 recipients of The National Science Fund for Distinguished Young Scholar in the field of analytical chemistry in the past two years to share with the audience on the latest methods, latest technology and the latest applications in the fields of life sciences, materials analysis, and environmental science.



#### 科研实验室设计培训班 BCEIA 专场

报告人：孙伟先生 / 西湖大学副总设计师、项目负责人

报告题目：《分享科研建筑设计案例》

Research Laboratory Design Training Course BCEIA Session  
Speaker: Mr. Wei Sun, Deputy Chief Designer and Project Leader of West Lake University  
Topic: Scientific Building Architectural Design: Case Studies



#### 安捷伦光谱全球新品发布会推出智能化 ICP-OES

主办方：安捷伦科技（中国）有限公司

Agilent Spectrometer Global New Product Release Ceremony  
The introduction of intelligent ICP-OES  
Agilent Technologies (China) Co., Ltd.



#### 有机标准品的研制及其质谱应用技术研讨会

主办方：天津阿尔塔科技有限公司

Seminar on the Preparation of Reference Organic Products and Mass Spectrometry Application technology  
Alta Scientific Co., Ltd.



#### 分析检测技术创新应用论坛

主办方：北京博晖创新生物技术股份有限公司

Instrumental Analysis Technology Innovation & Application Forum  
Beijing Bohui Biotechnology Co., Ltd.





# BCEIA 2019 展览会

Exhibition

展馆面积：35,000m<sup>2</sup>

展商：564 家（外商：111 家）

参会观众总数：28,650 人

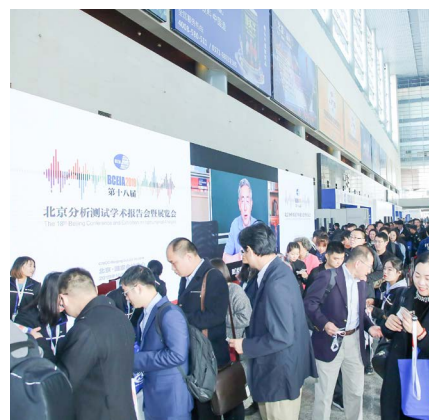
Exhibition area: 35,000m<sup>2</sup>

Exhibitors: 564 (Foreign exhibitors: 111)

Total number of visitors: 28,650

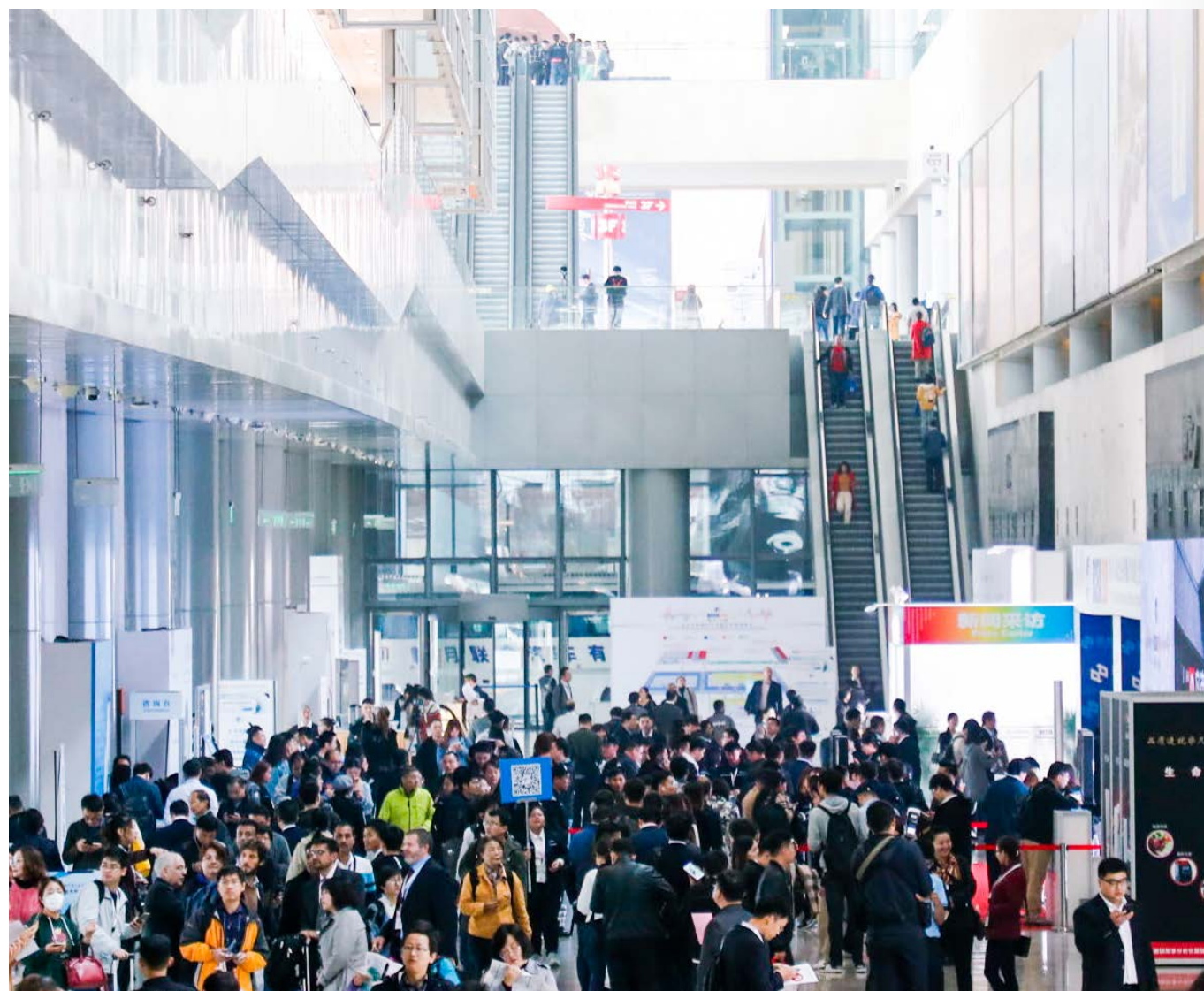


# BCEIA 2019 展览会 Exhibition



BCEIA 2019 吸引了国内外 564 家科学仪器企业参展，展品包含分析仪器、实验室器材、试剂、软件和分析测试服务等，新产品、新技术层出不穷。本届新增地下展馆，展览总面积达 35000m<sup>2</sup>，共分 6 大展馆，岛津、安捷伦、普析、天美、日立、珀金埃尔默、沃特世、梅特勒-托利多、耶拿、安东帕、万通、天瑞、堀场、捷欧路、聚光等国内外知名科学仪器厂商携前沿技术和最新产品“盛装”亮相 BCEIA2019。

BCEIA 2019 attracted 564 scientific instrument companies from inside and outside China. The exhibits include analytical instruments, laboratory equipment, reagents, software and analytical testing services, etc.. New products and technologies emerged one another at the exhibition. This year a new underground exhibition area was acquired, expanding the exhibition area to a total of 35,000 square meters in 6 exhibition halls. Shimadzu, Agilent, Persee, Techcomp, Hitachi, PerkinElmer, Waters, METTLER TOLEDO, analytikjena, Anton Paar, Metrohm, Skyray, Horiba, JEOL, FPI and other renowned scientific instrument manufacturers at home and abroad brought their cutting-edge technologies and the latest products to debut at BCEIA2019.



现场有多家知名厂商同期举办发布会，50 余家企业参与展商秀活动，大量新产品首发亮相。BCEIA 历来是国际知名仪器厂商向全球首发新品的平台，是展示科学仪器领域新技术、新成果的盛会。

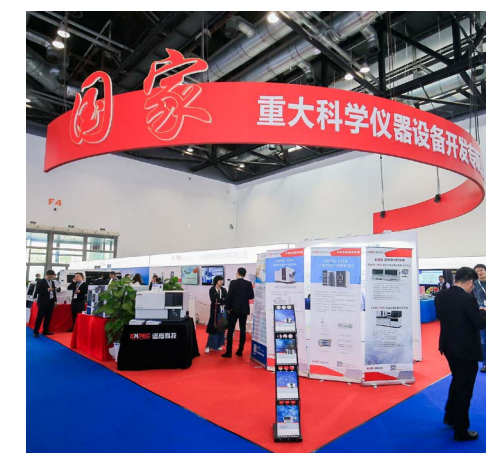
与此同时，第三届国家重大科学仪器设备开发专项暨地方科学仪器开发专项成果展、中国实验室建设与发展专题论坛“多元化模块实验室展区”作为 BCEIA2019 的特色展区也同期举行。

BCEIA2019 展会现场展示了数千余台新产品。参展厂商及展台数量均创新高。

A number of well-known manufacturers held press conferences and more than 50 companies participated in the Exhibitor Show, with a large number of new products unveiled. BCEIA has always been a platform for internationally renowned instrument manufacturers to conduct a global launch of their new products, and a grand event showcasing new technologies and achievements in the field of scientific instruments.

At the same time, The 3<sup>rd</sup> National Key Scientific Instrument and Equipment Project & Local Scientific Instrument Development Project Exhibition, and the Diversified Modular Laboratory Exhibition of China Laboratory Construction and Development Forum were also held as featured exhibitions of BCEIA2019.

Thousands of new products were showcased at the BCEIA2019 exhibition. The number of exhibitors and booths reached a historical new high.



BCEIA2019 的特色展区  
Featured Exhibition







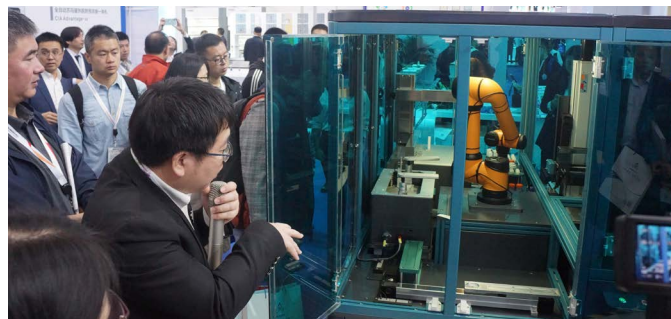
本届 BCEIA 上，诸多知名企业发布的新产品，在性能与智能化方面敢于创新与实践。特别是在如 ICP 等离子体光谱仪这种高端仪器，在本已优越的性能基础上进一步优化了光学系统，获得更低检出限及更高分辨率，数据监控方面通过众多内置传感处理器，结合 AI 智能算法和诊断功能，实现自我诊断和故障判断等。

At this year's BCEIA, many renowned companies released their new products, demonstrating the fruit of their innovations and the ability to translate these into improvements in performance and intelligence. This is especially true of high-end instruments such as ICP spectrometers, whose optical system has been further optimized to obtain even lower detection limits and higher resolution. In terms of data monitoring, through numerous built-in sensing processors and in combination with AI intelligent algorithms and diagnostic functions, instruments now have the capability to self-diagnose and detect errors.



与展示的产品中，国产品牌涌现出一批具有自动化、智能化且性能卓越的新产品。传统分析工作中，大部分时间消耗在样品前处理过程，提升效率、化繁为简是样品前处理仪器未来发展的方向。以此为目标，国产品牌带来了最新型的样品处理系统，集合样品管理、液体处理、振荡提取、离心分离等关键步骤，实现了样品制备无人化。国产品牌产品在自动化、信息化、智能化方面有了长足的进步，现场众多专家与资深用户表示作为中国用户，在 BCEIA 上看到国产仪器大放异彩，令人兴奋。

Among the products on display at the exhibition were a number of new products made domestically that reached a high standard of automation, intelligence and performance. In traditional analysis work, most of the time is consumed in the sample pretreatment process. The future direction of pretreatment instruments is both an improvement in efficiency and complexity. With this goal in mind, domestic manufacturers have brought in the latest sample processing systems, integrating key steps such as sample management, liquid processing, oscillation extraction, and centrifugal separation to achieve unmanned sample preparation. Domestic branded products have made great progress in automation, informatization and intelligence. Many Chinese attendees expressed their excitement at seeing domestic instruments shine at BCEIA.

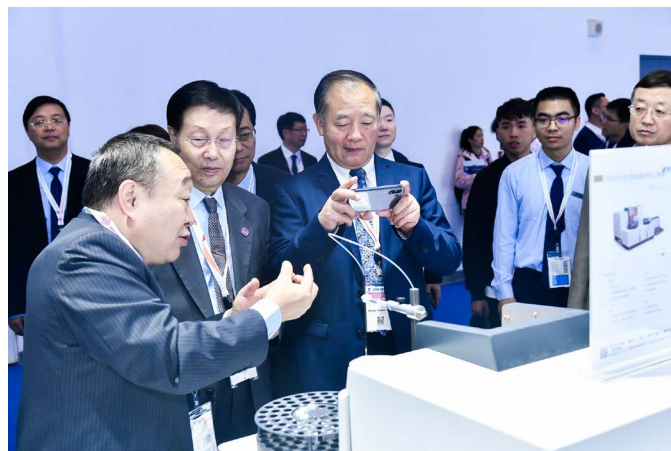


近些年，随着质谱分析技术在生物制药及临床领域的成熟应用，国际知名仪器厂商为之投入大量的精力财力，不断刷新着高端质谱产品的性能及应用广度，推出了多款革命性的质谱新品。对于 BCEIA 而言，这些重量级明星产品的到来，注定将备受瞩目，拥有这些产品的展台，观众络绎不绝，摩肩接踵，是当之无愧的“流量王”。

In recent years, with the mature application of mass spectrometry technology in biopharmaceutical and clinical fields, internationally renowned instrument manufacturers have invested a lot of energy and resources to constantly upgrade the performance and range of application of high-end mass spectrometry products, and have introduced a number of revolutionary new products for mass spectrometry. At BCEIA, the presence of these heavyweight star products was destined to attract attention. The booths with these products are full of visitors, so much so it could be said to be a "traffic jam."







江桂斌院士与张玉奎院士参观普析展位  
Academician Guibin Jiang and Academician Yukui Zhang visited the booth of Persee

10月23日,中国分析测试协会理事长江桂斌院士与中国分析测试协会科学技术委员会主任委员张玉奎院士走访 BCEIA 知名参展企业展台,仔细聆听企业高层对核心产品的讲解,针对某些重点产品新技术的应用交换意见,两位院士对国产品牌的产品格外关注,本土产品在性能和外观设计方面都有了较大进步,均表示在本届展会,国产品牌的产品留下了较深印象。一同走访展台的还有科技部科技经费监管服务中心吴学梯主任、北方工业大学丁辉校长、中国分析测试协会副理事长刘成雁研究员等。

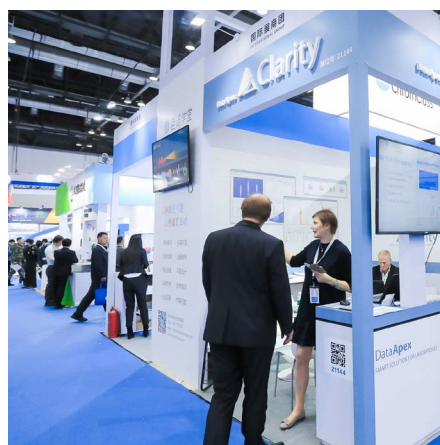
On October 23, Academician Guibin Jiang, President of CAIA, and Academician Yukui Zhang, Chairman of the Science and Technology Committee of CAIA, visited the booths of noted enterprises, and listened carefully to the introduction of core products by their senior executives and exchanged opinions on the new technologies of key products. The two academicians paid special attention to the products of domestic brands, as the local products have made great progress in performance and design. Both of them indicated that the products of domestic brands left a deep impression in this exhibition. Also attending the booth were Xueti Wu, director of the Supervision Service Center for Science and Technology Funds of the Ministry of Science and Technology, Prof. Hui Ding, president of North China University of Technology, and Prof. Chengyan Liu, Vice-President of CAIA.



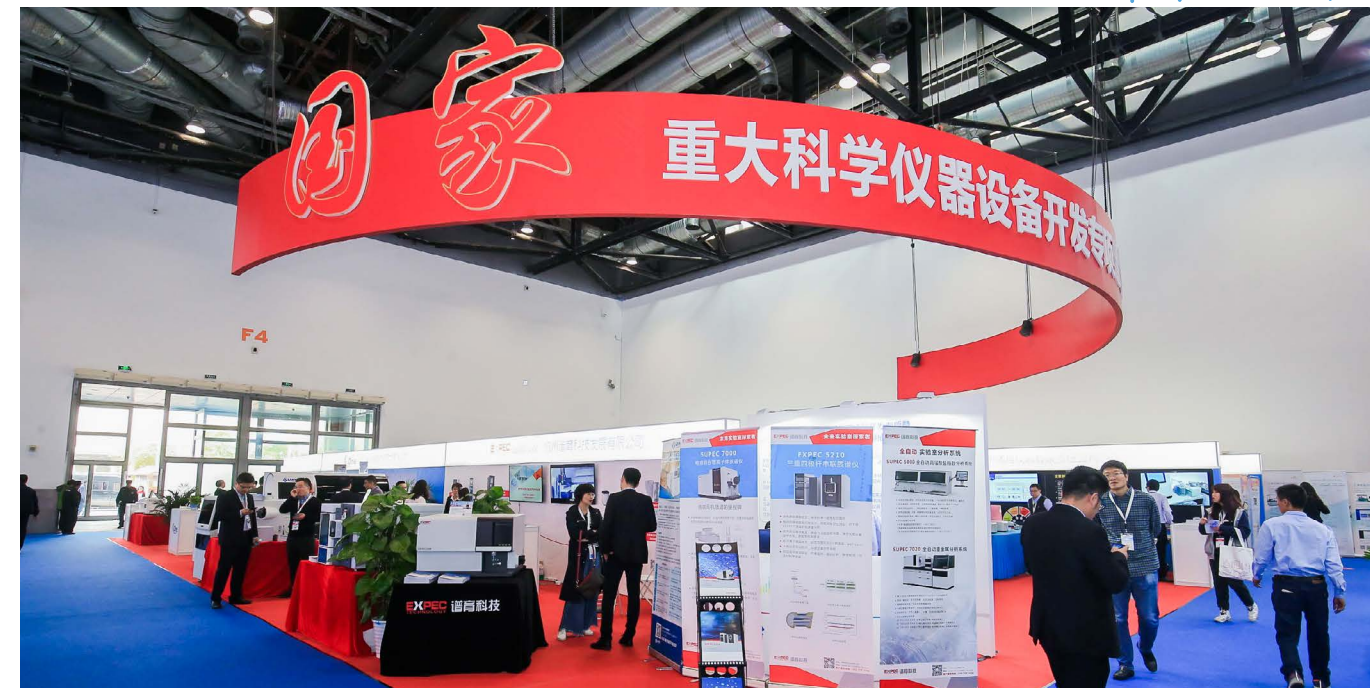
程津培院士与王海舟院士参观安捷伦展位  
Academician Jinpei Cheng and Academician Haizhou Wang visited the booth of Agilent Technologies

10月24日, BCEIA2019 大会主席、清华大学教授程津培院士在王海舟院士的陪同下参观 BCEIA 展览会,走访了岛津、安捷伦、普析、耶拿、东西分析、中国计量院、钢研纳克、宝德等多个展商的展台,了解在环境分析、食品安全等新要求下的新技术新仪器,与企业高层亲切交流。

On October 24<sup>th</sup>, Academician Jinpei Cheng, Chairman of BCEIA2019 and a professor of Tsinghua University, accompanied by Academician Haizhou Wang, visited the booths of Shimadzu, Agilent, Persee, analytikjena, EWAI, China Metrology Institute, and NCS Testing Technology Co., and Baode Instruments etc. to learn about new technologies and new instruments that satisfied new requirements for environmental analysis and food safety.



英国、美国、德国、日本等发达国家仪器制造企业“盛装”出席 BCEIA2019 展览会  
Instrument manufacturers from UK, U.S., Germany, Japan and other developed countries once again put forward their best for the 2019 BCEIA Exhibition.



## BCEIA 2019 特色展区

Featured Exhibition



第三届国家重大科学仪器设备开发专项暨地方科学仪器开发专项成果展

Featured Exhibition-The 3rd National Key Scientific Instrument and Equipment Project & Local Scientific Instrument Development Project Exhibition

2011年,为提高我国科学仪器设备的自主创新能力,为科技创新、经济社会发展、国家安全等提供科学工具支撑,科技部、财政部共同设立了国家重大科学仪器设备开发专项。各项目以需求为牵引,以应用为导向,立足重大科学仪器设备产品开发和产业化应用推广,通过系统集成、工程技术研究和应用开发,已形成部分质量稳定可靠、功能丰富的产品。

为了加大“十三五”以来国家重大专项取得的成果宣传力度,支持科技创新,推动科技成果转化,借助 BCEIA 平台,在国家重大专项支持下的一批具有我国自主知识产权、服务于社会发展和支撑科技创新的高水准的仪器设备和关键部件,将再次向社会公开展示。

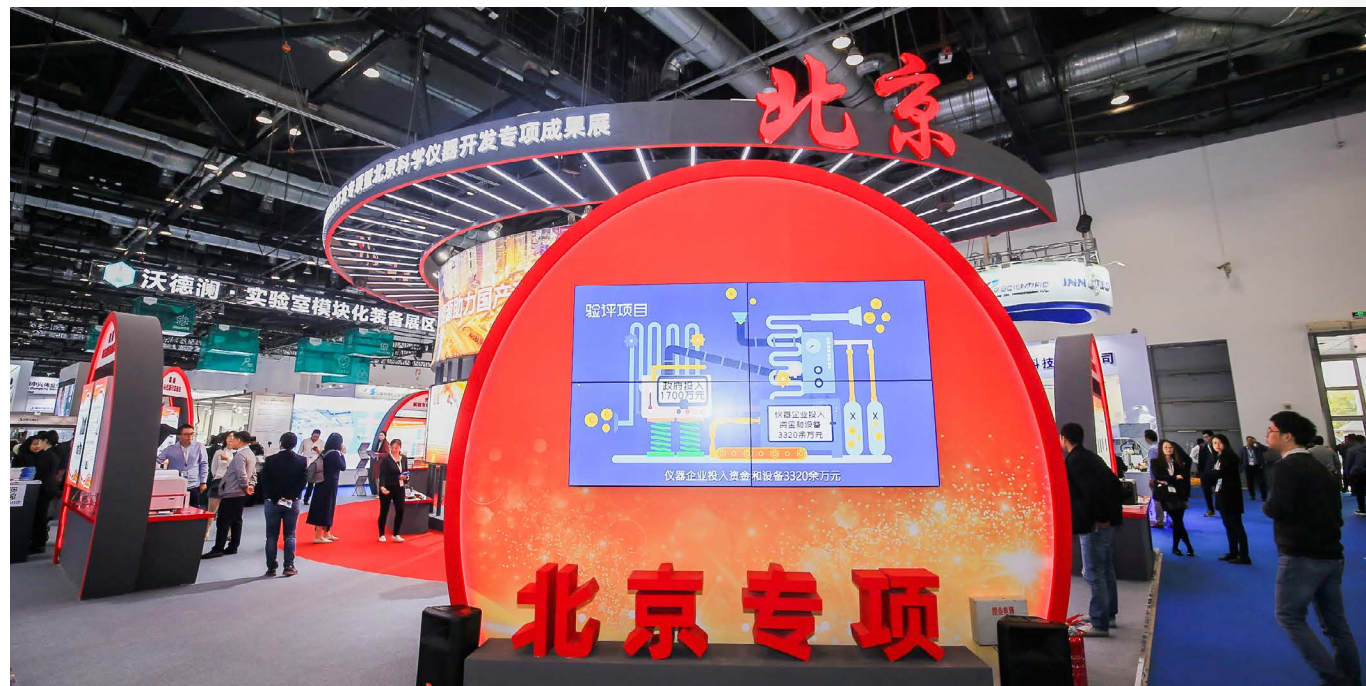
第三届国家重大科学仪器设备开发专项暨地方科学仪器开发专项成果展作为 BCEIA2019 特色展区成功举办,共有来自科研院所、高等院校和企业的 50 家单位展示了近 100 项成果,分为光谱、色谱、生命科学、核磁、生物医药、农业与环境等。

In 2011, to improve the independent innovation capability and the quality of scientific instruments and equipment in China, and provide scientific tools for scientific and technological innovation, economic and social development, and national security, the Ministry of Science and Technology and the Ministry of Finance jointly established a National Key Scientific Instrument and Equipment Project program. Projects are driven by demand, application-oriented, and aimed at the development and industrialization of major scientific instruments and equipment products. Through system integration, engineering technology research, and application development, some high-quality products with broad functionality have been launched.

To increase the publicity of the achievements of the 13th Five-Year Plan national major projects, support scientific and technological innovation, and promote the transformation and commercialization of scientific R&D results, a batch of high-level instruments and key components with independent intellectual property rights, and incubated by National Key Scientific Instrument and Equipment Project, were showcased to the public utilizing the BCEIA platform. They have served the role of supporting social development and technological innovation.

The 3<sup>rd</sup> National Key Scientific Instrument and Equipment Project & Local Scientific Instrument Development Project Exhibition was successfully held as a BCEIA2019 featured exhibition. 50 exhibitors from research institutes, universities and enterprises showcased nearly 100 achievements in the fields of spectrometry, chromatography, life sciences, nuclear magnetism, biomedicine, agriculture and environment, etc.





科技部科技经费监管服务中心吴学梯主任参观成果展  
Xueti Wu, director of the Supervision Service Center for Science and Technology, Ministry of Science and Technology visited the exhibition



科技部高技术研究中心卞曙光副主任参观成果展  
Shuguang Bian, Deputy Director of the Hi-Tech Research Development Center, Ministry of Science and Technology visited the exhibition

尤为瞩目的增强型量子传感器、太赫兹时光谱仪、三重四极杆串联质谱仪 (LC-MS/MS)、动态多谱分析仪 (TGA-NIR-GC/MS)、600MHz 超导核磁共振波谱仪、国内首台脉冲式电子顺磁共振波谱仪 (EPR)、制备型/分析型超临界流体色谱系统、高效微流电动液相色谱仪、大规模光纤听器阵列水声探测仪、毫米波人体安全检查仪等国产重大科学仪器设备在 BCEIA 展会上纷纷亮相。标志着国内科学仪器技术革新的步伐正在加快，刷新了人们对于国产仪器的认识。

由于 BCEIA 展览场地有限，此次仅对部分仪器专项项目取得的成果进行了展示。展示成果主要分为北京地区，上海地区和其它地区三部分。这些仪器与关键部件已部分形成具有自主知识产权、质量稳定可靠的高水平仪器设备及部件产品，并成功应用于资源、环境、农业、生命科学等领域，在支撑科技创新、服务经济社会发展、支持国家重大工程建设等方面发挥了积极作用。

Domestically-made national major scientific instruments and equipment such as enhanced quantum sensors, terahertz time-domain spectrometers, triple quadrupole mass spectrometers (LC-MS/MS), dynamic multispectral analyzers (TGA-NIR-GC/MS), 600MHz superconducting NMR spectroscopy, China's first pulsed electron paramagnetic resonance spectrometer (EPR), preparative/analytical supercritical fluid chromatography system, high-performance microfluidic liquid chromatography, large-scale fiber-optic hydrophone array underwater acoustic detector, millimeter wave human body security inspection system, all debuted at the BCEIA exhibition, a strong indication that the pace of technological innovation in domestic scientific instruments is accelerating, helping refreshing people's perception of the quality of domestic instruments.

Due to the limited exhibition space at BCEIA, only the achievements of some special projects were demonstrated, namely those from Beijing, Shanghai and other major cities. Some of these instruments and key components have resulted in state-of-the-art instruments and patented components, all with high stability and reliability, and have been successfully utilized in areas of resources, environment, agricultural life sciences, etc., playing an active role in supporting technological innovation, serving economic and social development, and supporting the country's major state projects.



中国实验室建设与发展专题论坛“沃德澜·实验室模块化装备展区”  
Featured Exhibition - China Lab Construction and Development Forum- "Vanetterlab: Lab Modular Equipment Exhibition Zone"



作为 BCEIA2019 的新增特色展区，以“实验室管理和发展”、“实验室建设与可持续发展”为主题的中国实验室建设与发展专题论坛“沃德澜·实验室模块化装备展区”也如期开幕。来自国内外实验室相关领域的专家学者以及知名企业代表，围绕中国实验室建设与发展、实验室规划与设计、实验室安全与运营共享管理、实验室的可持续性发展等热门主题，分享经验，探讨发展趋势，为现场观众带来 32 场精彩分享报告。现场演示“实验室模块化装备及可持续应用技术”，展区分为模块化多功能实验区、装配式洁净实验区、数字化智慧实验区、开放式共享实验区等，现场体验样品前处理、检测、研发等不同的实验场景。通过现场体验和论坛互动形式，向广大用户介绍国际前沿的实验室模块化装备及可持续应用技术看，吸引了众多中外业内人士前来参观洽谈。

As a new featured exhibition area at BCEIA2019, the China Laboratory Construction and Development Forum-Vanetterlab Lab Modular Equipment Exhibition Zone with the themes of "Laboratory Management and Development" and "Laboratory Construction and Sustainable Development" was opened as scheduled. Experts and scholars from China and abroad, as well as representatives of well-known enterprises, brought 32 presentations to share their experiences and discuss the development trends in China regarding laboratory construction and development, laboratory planning and design, laboratory safety and share operation management, and laboratory sustainability. There was also on-site demonstration of laboratory modular equipment and sustainable application technology. The exhibition was divided into modular multi-functional experimental area, assembled clean experimental area, digital intelligent experimental area, open sharing experimental area, etc. Visitors were able to experience in person scenarios such as sample pre-treatment, testing, research and development. Through on-site experience and interactions new users got introduced to the world's cutting-edge laboratory modular equipment and sustainable application technology, attracting significant attention from both Chinese and foreign attendees and resulting in the opening of many business negotiations.



BCEIA 金奖获奖企业 / BCEIA Gold Award Winners



为促进我国分析测试仪器技术的发展和水平的提高，鼓励创新，推动具有自主知识产权的分析测试仪器产业化和市场化，中国分析测试协会设立了北京分析测试学术报告会暨展览会仪器奖（简称 BCEIA 金奖），以奖励对我国在分析测试仪器创新发展做出贡献的开发和研制生产单位。BCEIA 金奖每两年评选一次，从 1989 年第三届 BCEIA 开始至 2019 年第十八届 BCEIA 共评选出 180 项，获奖单位 170 个，在国内分析测试仪器领域具有较强的影响力。

10 月 24 日晚，2019 BCEIA 金奖公布，共 14 项产品获此殊荣。其中占比最大的是光谱类仪器，获奖产品共 7 项，质谱类获奖产品 2 项，色谱类获奖产品 2 项等。

To promote the development of instrumental analysis technology in China, encourage innovation, and promote the industrialization and commercialization of analytical instruments with independent intellectual property rights, CAIA had established the Beijing Instrumental Analysis Academic Conference & Exhibition Instrument Award ( Referred to as BCEIA Gold Award), to reward the development and production organizations that have contributed to the innovation and development of analytical instruments in China. The BCEIA Gold Award, which has been considered a very influential award within the industry, is elected every two years. From the 3rd BCEIA in 1989 to the 18th BCEIA in 2019, 180 awards were presented to 170 winners.

On the evening of October 24<sup>th</sup>, the 2019 BCEIA Gold Award winners were announced, with a total of 14 products winning. Spectrum instruments represent biggest percentage on the winner list with 7 award-winning products, followed by 2 mass spectrometry products, and 2 chromatographic products.

序号	公司名称 Company Name	产品名称 Product Name
1	北京海光仪器有限公司 Beijing HaiGuang Instrument Co., Ltd.	HGF-V9 原子荧光光度计技术 HGF-V9 atomic fluorescence photometer technology
2	北京吉天仪器有限公司 Beijing Titan Instruments Co., Ltd.	KylinS18 原子荧光光度计技术 KylinS18 atomic fluorescence photometer technology
3	融智生物科技（青岛）有限公司 Intellibio (Qingdao) Co., Ltd.	QuanTOF 宽谱定量飞行时间质谱仪技术 QuanTOF broad spectrum quantitative TOF mass spectrometry
4	北京英柏生物科技有限公司 Beijing Inter-Bio Bio-Tech Co., Ltd.	MI-S200 表面等离子共振检测仪技术 MI-S200 surface plasmon resonance spectrometer
5	苏州纽迈分析仪器股份有限公司 Suzhou Niumag Analytical Instruments Co., Ltd.	NMRC12-010V 核磁共振纳米孔隙分析仪技术 NMRC12-010V NMR Nanopore Analyzer
6	成都西奇仪器有限公司 Chengdu Xiqi Instrument Co., Ltd.	PJ10 微波等离子体固体样发射光谱仪技术 PJ10 microwave plasma-atomic emission spectrometer for solid samples
7	青岛盛瀚色谱技术有限公司 Qingdao Shenghan Chromatograph Technology Co., Ltd.	CIC-D500 离子色谱仪技术 CIC-D500 ion chromatograph technology
8	北京东西分析仪器有限公司 East & West Analytical Instruments, Inc. (EWAI)	PTR-QMS3500 质子转移反应质谱仪技术 PTR-QMS3500 proton transfer reaction mass spectrometry technology
9	北京宝德仪器有限公司 Beijing Baode Instruments Co., Ltd.	BDFIA-8600 全自动流动注射分析仪技术 BDFIA-8600 fully automatic flow injection analyzer technology
10	南京简智仪器设备有限公司 Nanjing Simple & Smart Instruments Co., Ltd.	差分拉曼光谱仪技术 SERDS Portable-standard spectrometer technology
11	江苏汉邦科技有限公司 Jiangsu Hanbon Science and Technology Co., Ltd.	NS8100 制备型超临界流体色谱系统 NS8100 preparative supercritical fluid chromatography system
12	杭州春来 / 因诺维新科技有限公司 Hangzhou Chunlai/Inovis Science & Technology Co., Ltd.	ERMS 2000 型基于 ETDLAS 及 UV-DOAS 光谱联用技术的机动车尾气遥测系统 ERMS 2000 vehicle exhaust telemetry system based on ETDLAS and UV-DOAS spectroscopy technology
13	钢研纳克检测技术股份有限公司 NCS Testing Technology Co., Ltd.	Plasma 3000 电感耦合等离子体原子发射光谱仪技术 Plasma 3000 ICP-AES Technology
14	钢研纳克检测技术 / 聚束科技（北京）有限公司 NCS Testing Technology Co., Ltd. /Focus-Beam (Beijing) Co., Ltd.	NavigatorTM -OPA 高通量（场发射）扫描电子显微镜技术 NavigatorTM -OPA High Throughput (Field Emission) Scanning Electron Microscopy Technology

排名不分前后 / listed in no particular order



## BCEIA 2019 观众信息统计

Audience Statistics

到场观众数目：  
28,650 人

参与学术报告会：  
4,400 人

听会人次：  
8,100 人次

观众来自：  
22 个国家及 2 个地区

Number of attendees: 28,650  
Number of experts and visitors  
participating in the academic conference:  
4,400 attendees, and 8,100 entrances  
Countries & Regions: Audience from 22  
countries and 2 regions





## BCEIA 2019 观众信息统计 Audience Statistics

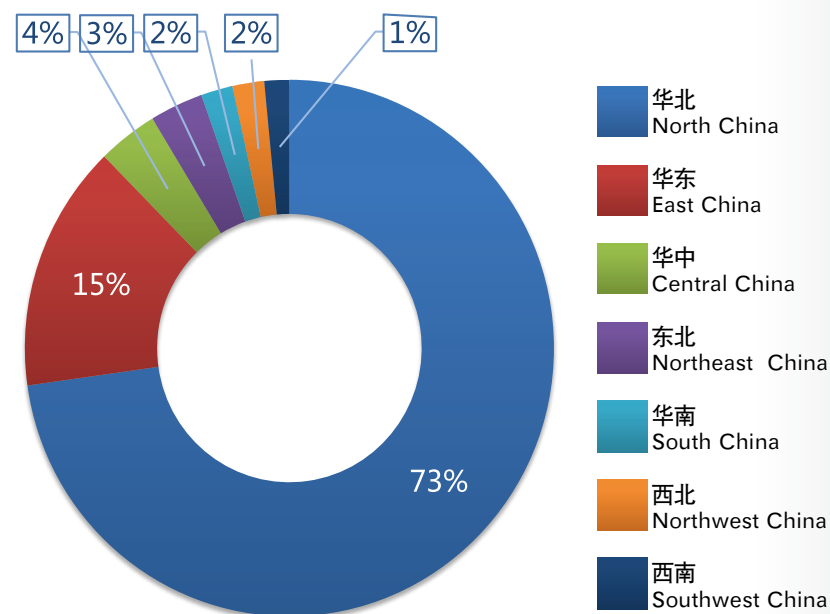
**共 28650 人到现场参会，  
75% 的观众参与本次问卷调查**

(不包含全体展商代表及部分会议代表)

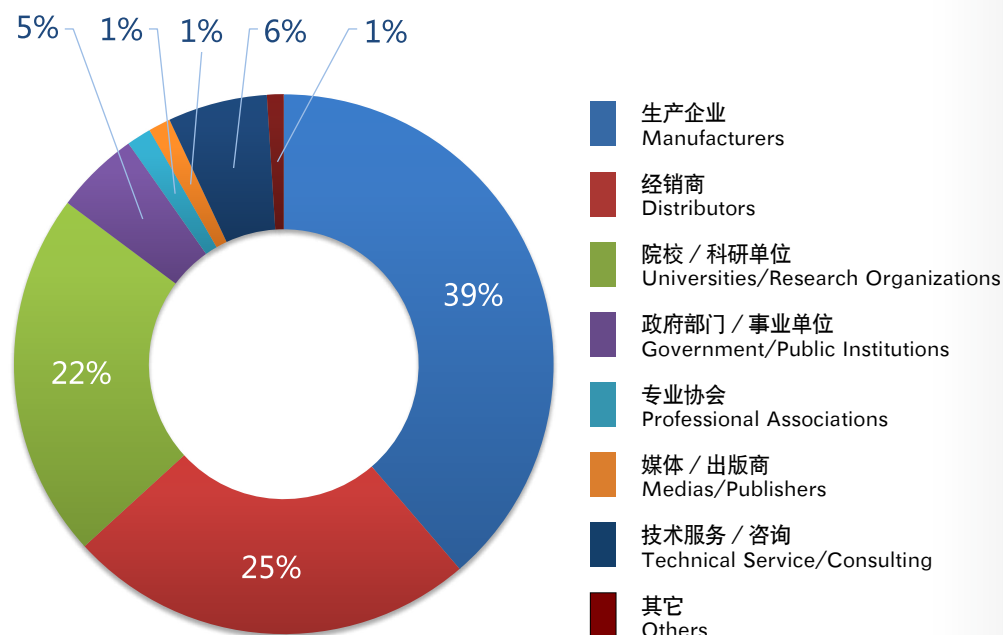
A total of 28,650 visitors attended BCEIA 2019, of which 75% of the total participated in this survey.

(excluding all exhibitor representatives and some conference delegates)

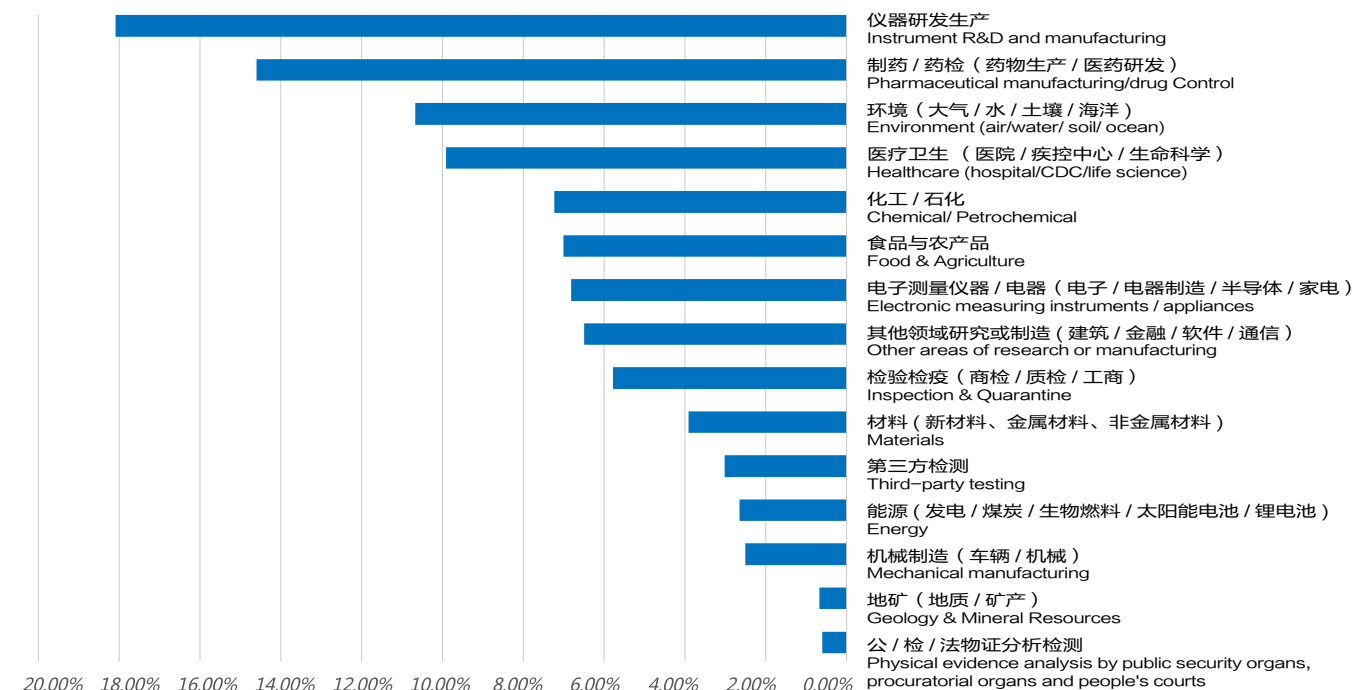
大陆地区观众区域分类统计 (行政区域)  
Mainland China Audience by Region (administrative region)



观众所属单位的主要类别  
Audience by Type of Organization



观众从事行业或领域  
Audience by Industry/Field



观众参观的目的  
Purpose of Visit



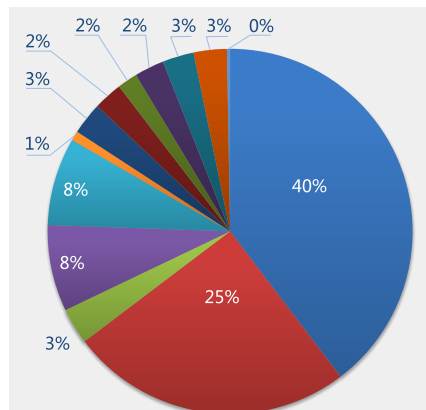


## BCEIA 2019 观众信息统计 Audience Statistics

### 观众来 BCEIA2019 寻找的产品和服务 Products and Services Sought by Audience at BCEIA 2019

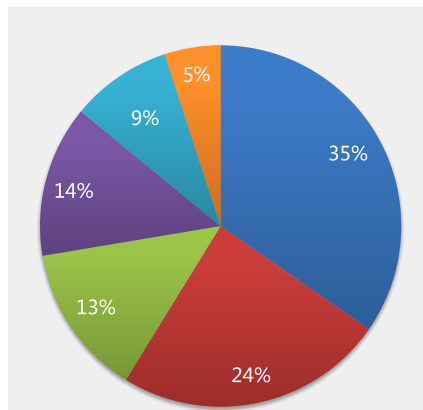
类别 / category	比例 %
分析仪器 / Analytical Instruments	86.82%
生命科学仪器 / Life Science Instruments	3.59%
咨询 / Consultation	1.99%
行业专用仪器及其他 / Industry-Specific Instruments and Others	1.69%
物理性能测试仪器 / Physical Performance Testing Instruments	1.51%
试剂 / Reagents	1.35%
实验室设备及管理信息系统 Laboratory Equipment and Management Information System	1.10%

#### 分析仪器 Analytical Instruments



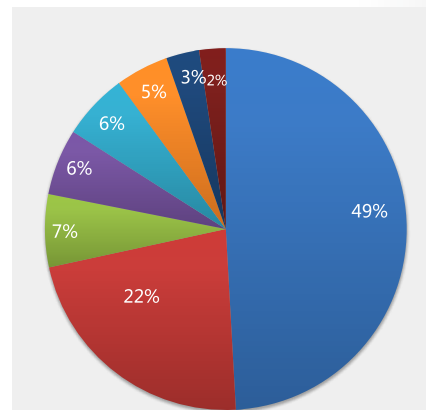
- 电子光学仪器  
Electro-Optical Instrument
- 质谱仪器  
Mass Spectrometry
- X 射线仪器  
X-Ray Instrument
- 光谱仪器  
Spectroscopy Instrument
- 色谱仪器  
Chromatography Instrument
- 波谱仪器  
Wave Spectrometer
- 电化学仪器  
Electrochemical Instrument
- 显微镜及图像分析仪器  
Microscope and Image Analysis Equipment
- 热分析仪器  
Thermal Analysis Instrument
- 生化分离分析仪器  
Biochemical Separation Analysis Instrument
- 环境与农业分析仪器  
Environmental and agricultural analytical instrument
- 样品前处理及制备仪器  
Sample pretreatment and preparation instrument
- 其他  
Others

#### 咨询 Consultation



- 求职  
Job Seeking
- 新公司 / 市场咨询  
New Venture/Market Consulting
- 创新咨询  
Innovation Consulting
- 合资项目  
JV Project
- 技术转让  
Technology Transfer
- 金融服务 / 风险资金  
Financial Services/Venture Capital

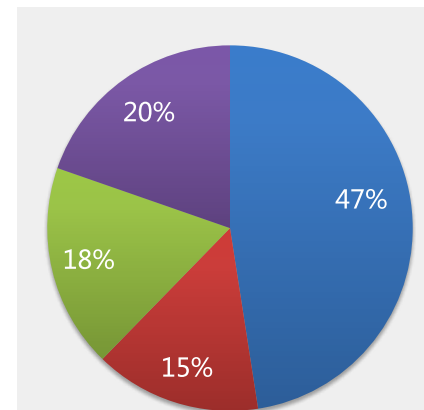
#### 行业专用仪器及其他 Industry-Specific Instruments and Others



- 工艺实验设备  
Process Test Equipment
- 大气探测仪器  
Atmospheric Instrument
- 核仪器  
Nuclear Instrument
- 特种检测仪器  
Special Testing Instrument
- 海洋仪器  
Oceanographic Instrument
- 地球探测仪器  
Geophysical Instrument
- 天文仪器  
Astronomical Instrument
- 其他仪器  
Others

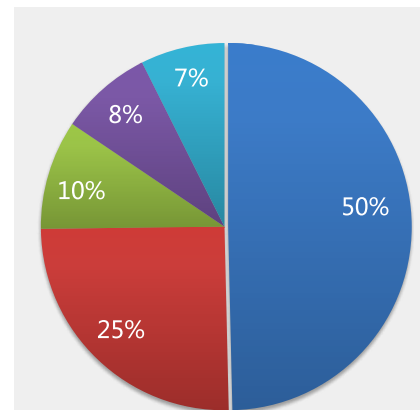


#### 医药 / 公共健康技术 Pharmaceuticals / Public Health Technology



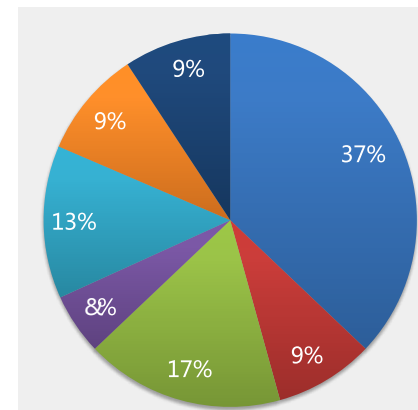
- 诊断技术  
Diagnostic Technology
- 生物医学应用  
Biomedical Applications
- 检测与试剂盒  
Tests & Kits
- 诊断设备  
Diagnostic Equipment

#### 试剂 Reagents



- 生化试剂  
Biochemical Reagent
- 通用试剂  
General Purpose Reagent
- 诊断试剂  
Diagnostic Reagent
- 高纯试剂  
High-Purity Reagent
- 其它试剂  
Other Reagents

#### 物理性能测试仪器 Physical Performance Testing Instruments



- 力学性能测试仪器  
Mechanical Property Testing Instrument
- 大地测量仪器  
Geodetic Instrument
- 光电测量仪器  
Photoelectric Measuring Instrument
- 声学振动仪器  
Acoustic Vibration Instrument
- 颗粒度测量仪器  
Particle Size Measuring Instrument
- 探伤仪器  
Flaw Detector
- 其他  
Others



## BCEIA 2019 观众信息统计 Audience Statistics

BCEIA2019 网络云媒体平台观众参会  
BCEIA2019 Cloud Media Platform Attendance



BCEIA 视频直播、图文直播平台 / BCEIA live video, photo and text stream :
服务商：弗戈工业传媒《实验与分析》/ Vendor: Vogel-Labor Praxis
直播时间：2019 年 10 月 23-26 日 / Time: October 23-26, 2019
观看直播观众数 ( UV )：6,433 人 / Number of Unique Visitors (UV): 6,433
观看直播访问量 ( PV )：21,682 次 / Number of Page Views (PV): 21,682
观看直播有效 IP：6,017 个 / Number of Valid IPs: 6,017
观看直播 IP 同时并发峰值：1,237 个 / Number of Concurrent Peaks while using the IP: 1,237

### 在线参会观众人数排名 Ranking of Number of Visitors by Province

排名 RANKING	省份 PROVINCES	观众分布 DISTRIBUTE
1	北京 / Beijing	15%
2	山东 / Shandong	10%
3	广东 / Guangdong	9%
4	河北 / Hebei	7%
5	江苏 J/ iangsu	7%
6	山西 / Shanxi	6%
7	河南 / Henan	5%
8	浙江 / Zhejiang	4%
9	上海 / Shanghai	4%
10	辽宁 / Liaoning	3%
11	其他 / Other	30%

服务商：Vphoto 云摄影 / Vendor: Vphoto Cloud Photography
直播时间：2019 年 10 月 23-11 月 22 日 / Time: October 23-November 22, 2019
观看直播访问量 ( PV )：145,213 次 / Number of Page Views (PV): 145,213



## BCEIA 2019 现场活动 On-Site Activities

### 分析测试人才交流论坛 Instrumental Analysis Talent Exchange Forum

“科教兴国”、“人才强国”是党中央做出的重大战略决策，本届 BCEIA 展会期间，专门举办的分析测试行业人才培养与交流活动吸引了大量的青年学者及科研人士参与。

论坛旨在贯彻落实国家技术人才行动计划，充分发挥人才市场的资源优势，搭建分析测试行业人才引智交流平台，为科学仪器及分析测试行业提供人才保障。论坛邀请来自科学仪器仪表、环境保护、生物医药、检验检测等多个领域的 70 余家仪器公司、高校、科研院所、检测机构作报告。报告期间众多行业用户参与，现场交流踊跃。

"Revitalizing the country through science and education" and "powering the country with talent" are major strategic aims established by the Communist Party Central Committee. During the BCEIA exhibition, the talent training and exchange activities specifically organized for the instrumental analysis industry attracted a large number of young scholars and researchers.

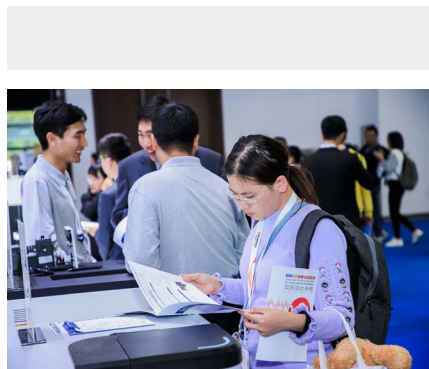
The forum aimed to implement the national technical talent action plan, aiming to fully utilize available human capital resources, build a platform for talent introduction and exchange in the instrumental analysis industry, and provide a strong talent pipeline for the scientific instrument and instrumental analysis industries. The forum invited more than 70 instrument companies, universities, research institutes and testing institutions from scientific instrumentation, environmental protection, biomedicine, inspection and testing fields to make presentations. During the presentation sessions, many industry users participated and the on-site exchanges were very active.

### 分析仪器快速筛检互动体验活动 Analytical Instrument Rapid Testing Interactive Activity

中国工程院王海舟院士、仪器评议光谱组郑国经、符斌等专家教授莅临 BCEIA2019 展会现场考察分析仪器互动体验活动，来自中检国研、安科慧生、克吕士、南京简智、中科志康、天津能谱等国内外公司的快速检测仪器参加了互动体验活动。在场的工作人员现场为专家们演示了快速、准确的实验过程，王海舟院士观看了现场快速检测，并饶有兴趣地咨询现场工作人员。当天的快检仪器包括了痕量分析土壤、水质、食品、化妆品中的多种重金属、食品非法添加以及滥用添加成分检测、药品保健品定性检测、接触角测量等项目。该活动旨在加强百姓对于分析科学与现实生活关系的认识，观众纷纷驻足并参与互动活动。

Haizhou Wang, Academician of the Chinese Academy of Engineering, Guojing Zheng and Bin Fu, and other experts and professors from the Instrument Review -Spectrometry Group visited the BCEIA2019 exhibition to inspect the interactive scenarios of the analytical instruments. Rapid testing instruments from China Inspection Laboratory Technologies Co. Ltd, Beijing Anchor Wisdom Technology Co, Ltd, KRÜSS, Nanjing Simple & Smart Instruments Co., Lt, Sino Healthtech and Tianjin Nengpu Science & Technology Co. participated in these interactive scenarios. The on-site staff demonstrated for the rapid and accurate experimental processes of their instruments. Academician Haizhou Wang watched the on-site rapid inspection and consulted the field staff with great interest. The rapid testing of the day included trace analysis of soil, water quality, various heavy metals in food and cosmetics, illegal food additives and detection of abused additive components, qualitative tests of pharmaceuticals and health products, and contact angle measurement. The scenarios aimed to strengthen the public's understanding of the relationship between analytical science and real life. Many audiences stopped and participated in these scenarios.





### 主题参观路线 Theme Tour Route

本届首次开设七条观众参观主题路线，有近 200 家展商携 300 余款产品参与活动，囊括国内外众多特色产品，方便用户快速抵达展台，提升展商与观众的参与度，增加展商与观众交流的机会。

For the first time, seven theme tour routes were laid out for the visitors. Nearly 200 exhibitors participated in these tours, with more than 300 products displayed, including both featured domestic and foreign products. These theme tours helped users to quickly reach the booth, enhance the participation of exhibitors and visitors, and facilitated communication between exhibitors and visitors.



### 国际培训班参观学习团 International Training Class's On-Site Visit

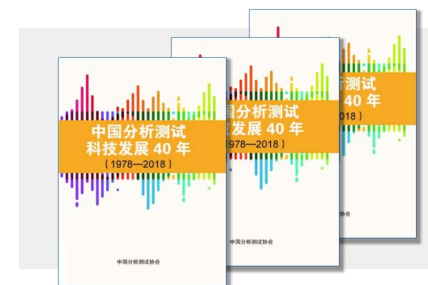
由中国科学技术部国际合作司主办、国家市场监督管理总局科技财务司和国际合作司监督指导、中国检验检疫科学研究院具体承办的“输华水果质量安全检测技术国际培训班”20 余位学员赴 BCEIA2019 展会现场参观学习，他们是来自蒙古、越南、泰国、孟加拉、印度、巴基斯坦、伊朗、埃及、尼日利亚、苏丹等 10 个“一带一路”沿线国家的专家学者，BCEIA 实践活动是输华水果监管和检验能力培训中重要的考察环节，将所学理论结合到 BCEIA 展会中，与知名仪器企业技术代表交流洽谈，了解最新的技术应用，学员们纷纷表示是一次十分难得且难忘的经历。

More than 20 trainees from the International Training Course on Quality Safety Testing of Fruit Exported to China, which was sponsored by the International Cooperation Department of the Ministry of Science and Technology of China, supervised by the Technology & Finance Department and International Cooperation Department of the State Administration for Market Regulation, and organized by the Chinese Academy of Inspection and Quarantine, visited the BCEIA2019. These visitors were experts and scholars from 10 countries along the "Belt and Road" countries including Mongolia, Vietnam, Thailand, Bangladesh, India, Pakistan, Iran, Egypt, Nigeria and Sudan. The BCEIA visit is an important part of inspection and testing capability training, where they were expected to apply the theories they learned into the BCEIA exhibition, obtain updates on the newest technology application through communicating with technical representatives from noted instrument companies. All trainees expressed that BCEIA was a very unique and unforgettable experience.

### 中日科学仪器行业交流 Sino-Japan Scientific Instrument Industry Exchange

本次 BCEIA 进一步推动了中日科学仪器界的交流与合作，除举办了 BCEIA2019 中日科学仪器发展论坛外还组织了日本科学仪器协会（简称“JSIA”）清华参观团，来自日本的行业内大中型企业一行 30 人参观了清华大学分析中心，并与中心领导进行了深入的讨论，是 BCEIA 在中日科学仪器行业交流上的新举措，加深了两国之间科学仪器行业的互动与合作。

BCEIA2019 further promoted the exchange and cooperation between the Chinese and Japanese scientific instrument industries. In addition to the BCEIA2019 Sino-Japan Scientific Instruments Development Forum, the Japan Scientific Instruments Association (JSIA) also organized a tour to Tsinghua University. A group of 30 representatives from large and medium-sized Japanese enterprises visited the Tsinghua University Analysis Center and had in-depth discussions with the center's leaders. Promoting Sino-Japanese scientific instrument industry exchange is a new BCEIA initiative, which enhanced the interaction and cooperation between the scientific instrument industries between the two countries.



### 发布《中国分析测试科技发展 40 年》纪念册 “40-Year Development of China's Instrumental Analysis Technology” Commemorative Album was published

由中国分析测试协会组织行业内院士、专家编撰的《中国分析测试科技发展 40 年》纪念册一经发布，受到热烈欢迎。

The commemorative book “40-Year Development of China's Instrumental Analysis Science and Technology”, compiled by academicians and industry experts under the organization of CAIA, was warmly welcomed after its publishing.



### 中学生科技周 Middle School Students Science and Technology Week

北京十一中学的中学生集体组织到展会现场进行参观学习，了解分析科学知识。

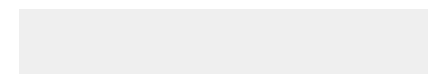
Students from Beijing No. 11 Middle School visited the exhibition to gain knowledge about analytical science.



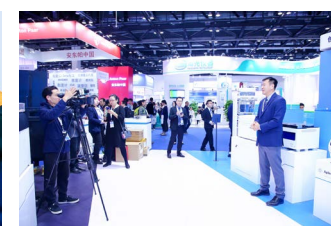
### BCEIA 2019 展商秀 Exhibitor Show

展会期间，50 余家展商参与展商秀活动，向现场仪器用户讲解企业新产品新技术。

During the exhibition, more than 50 exhibitors participated in the exhibitor show activities to introduce their new products and technologies to the on-site instrument users.



### CCTV 央视国际网对 BCEIA 展览会进行跟踪报道 CCTV International Network Tracked and Reported the BCEIA Exhibition



BCEIA 直达现场的班车站点遍布京城多个研究所及高校，提供与会者便利的参会方式，即便是深秋，降雨降温，道路湿滑，现场观众人数不减反增。

BCEIA arranged direct shuttle bus stations from various research institutes and universities in Beijing, providing participants with convenience access. Even in late autumn, it was rainy and temperatures were low. Though the road was slippery, the number of on site visitors still increased.



BCEIA 现场观展主题路线活动、云分享集赞活动吸引数以万计的观众参与活动，满足活动兑换条件，观展听会学习之余，带走一份精美的 BCEIA 纪念品轻而易举，备受观众欢迎。

BCEIA's themed tour and cloud sharing of photos attracted tens of thousands of participants and likes. While visiting the exhibition, visitors could take a beautiful BCEIA souvenir if meeting the event redemption criteria, which was quite popular among the audience.



# BCEIA 2021

期待再相聚

Looking Forward to Our Meeting Again in BCEIA2021

2021.09.27-29

BCEIA2021 将于 2021 年 9 月 27-29 日在北京中国国际展览中心（天竺新馆）举办，欢迎新老展商关注 BCEIA 官方微信点击报名参展。

BCEIA2021 will be held at the China International Exhibition Center (Tianzhu New Hall) in Beijing during September 27-29, 2021. We welcome new and old exhibitors to follow BCEIA's WeChat official account to sign up for the event.



特别鸣谢：

《China Daily》《中国日报》  
CCTV 央视国际网、中国科技网  
对会议报道

Special Acknowledgement to  
China Daily, CCTV and CSTNET  
for the coverage of this event





**分析科学 创造未来**  
**Analytical Science Creates Future**



**即刻进入BCEIA2019云相册**  
**收藏BCEIA2019精彩瞬间**  
**Scan the QR code and instantly enter the BCEIA2019**  
**cloud photo album to**  
**Collect your wonderful BCEIA2019 moments**