

第二届微/纳流控细胞分析学术报告会

The Second Symposium for Cell Analysis on Micro/Nanofluidics

会议手册



2019年9月25-26日

中国·北京

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会议须知（NOTICE）

一、会议时间：

2019 年 9 月 25 日-26 日，

二、会议地点：

北京西郊宾馆 5 号楼金缘厅/ Building No.5, Jinyuan Hall, Xijiao Hotel Beijing

三、会议报到：

（1）报到时间：2019 年 9 月 24 日 14:00-20:00。

（2）报到地点：北京西郊宾馆 5 号楼大堂。

（3）报到程序：

1.会前已汇款：请直接签到并领取资料。

2.现场缴费：请先缴费并将开票信息和发票邮寄地址填写完毕，签字确认，再领取资料。

四、住宿：

会议期间，请您自行办理入住手续，住宿费用自理，由酒店开具发票。

在会议期间，如您遇到任何问题，可随时与会务工作人员联系，我们将竭诚为您提供周到服务。

预祝您在会议期间身体健康，心情愉快！

会务工作联系人

会务分组	联系人	电话
会场总负责	李海芳	13520590084
	林斌歆	13599901397
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	张超英	18811727859
会场	张婉玲	18811363972
	黄秋实	15801217896
餐饮	丰硕	18811796870
	李玮玮	18801127263

会场地图



交通信息

北京首都国际机场—北京西郊宾馆

- 1.可搭乘机场班车五线（首都机场-中关村）至学院桥站可换乘 375、331 路至语言学院站下或搭乘出租车 10 分钟即可到达。或搭乘首都机场轨道客运专线至终点站东直门，可换乘轻轨 13 号线至五道口站，步行 10 分钟即可到达。
- 2.乘坐出租车，全程约为 35 公里，费用约 100 元。

北京站—北京西郊宾馆

- 1.可搭乘地铁在西直门站换乘轻轨 13 号线至五道口站，步行 10 分钟即可到达。
- 2.乘坐出租车，全程约为 16 公里，费用约为 70 元。

北京西站—北京西郊宾馆

- 1.可搭乘 694 路至明光桥北站换乘 375 路至语言学院站下，步行约 5 分钟即可到达。
- 2.乘坐出租车，全程约为 15 公里，费用约为 45 元。

北京南站—北京西郊宾馆

- 1.可搭乘地铁 4 号线至西直门站换乘轻轨 13 号线至五道口站下，步行约 10 分钟即可到达。
- 2.乘坐出租车，全程约为 19 公里，费用约为 60 元。

合作媒体和赞助单位

金牌赞助：

岛津企业管理（中国）有限公司

赞助单位：

北京燕京电子有限公司

苏州锐讯生物科技有限公司

北京友诚嘉业生物科技有限公司

合作媒体：

仪器信息网

分析测试百科网

Trends in Analytical Chemistry (Elsevier)

Program of the Second Symposium for Cell Analysis on Micro/Nanofluidics

第二届微/纳流控细胞分析学术报告会日程表

北京西郊宾馆/Beijing Xijiao Hotel

2019-9-24		5号楼大堂/Building No. 5	
14:00-20:00	Registration		
2019-9-25		5 号楼 金缘厅/ Building No. 5, Jinyuan Hall	
8:30-8:40	Opening Ceremony /开幕式		
Single Cell Analysis			
Chairs: Jin-Ming Lin and Katsumi Uchiyama			
8:40-9:10	Micro and Nano fluidic for Bio- and Analytical Technologies	Takehiko Kitamori	The University of Tokyo 东京大学
9:10-9:40	Single cell cellomics with microfluidic chip	Bifeng Liu 刘笔锋	Huazhong University of Science and Technology 华中科技大学
9:40-10:10	Fluorescent-free 3D super-resolution microscopy based on wavelength-dependent plasmonic scattering illumination	Seong Ho Kang 姜成浩	Kyung Hee University 庆熙大学
10:10-10:30	Tea Time & Photo/茶歇，合照 Photo: Building No. 1 合照地点: 西郊宾馆 1 号楼前		
Single Cell Analysis			
Chairs: Seong Ho Kang and Chaoyong Yang			
10:30-11:00	A paired-seq approach for high-throughput single-cell transcriptome sequencing	Chaoyong Yang 杨朝勇	Xiamen University 厦门大学
11:00-11:30	Possible application of push-pull nozzle system for single cell analyses and manipulation	Katsumi Uchiyama 内山一美	Tokyo Metropolitan University 首都大学东京
11:30-12:00	Microfluidics for cell mechanics and mechanobiology	Chunyang Xiong 熊春阳	Peking University 北京大学
12:00-13:30	Lunch Time/自助午餐 (Second floor, Shangyuan Cafeteria, Building No. 5/西郊宾馆 5 号楼二层 赏园餐厅)		
Single Cell Analysis			
Chairs: Yan Xu and Xiujun Li			
13:30-14:00	Microfluidic platforms for single-cell analysis	Xiujun Li 李秀军	University of Texas at El Paso 德州大学埃尔帕索分校
14:00-14:30	Chemical operations on a living single cell by open microfluidics	Jin-Ming Lin 林金明	Tsinghua University 清华大学

14:30-15:00	Towards molecular manual assembly: nanofluidic manipulation of single nanometric objects and extracellular vesicles	Yan Xu 许 岩	Osaka Prefecture University 大阪府立大学
15:00-15:15	Membrane-based single bacteria analysis 基于膜芯片的单细菌分析	Xingyu Lin 林星宇	Zhejiang University 浙江大学
15:15-15:30	Quantitative analysis of nanoparticles in single cells by laser ablation inductively coupled plasma-mass spectrometry 单细胞中金属纳米颗粒的质谱分析	Meng Wang 王萌	Institute of High Energy Physics Chinese Academy of Sciences 中科院高能物理研究所
15:30-15:50	Tea Time/茶歇		
CTCs & Organ on a Chip Chairs: Qionglin Liang and Jiashu Sun			
15:50-16:20	Three-dimensional microfluidic device for in vitro and in vivo detection of circulating tumor cells 三维微流控芯片体外及体内检测循环肿瘤细胞	Wei-Hua Huang 黄卫华	Wuhan University 武汉大学
16:20-16:50	Microfluidic techniques for cancer liquid biopsy 基于微流控技术的循环肿瘤标志物分离分析	Jiashu Sun 孙佳姝	National Center for Nanoscience and Technology 国家纳米科学中心
16:50-17:20	基于微流控芯片的肝组织结构单元构建及组装	Jinyi Wang 王进义	Northwest A&F University 西北农林科技大学
17:20-17:50	Perfusable 3D-glomerulus-on-a-chip fabricated with topographical hollow hydrogel microfiber	Qionglin Liang 梁琼麟	Tsinghua University 清华大学
18:00-20:00	Shimadzu Banquet/岛津晚宴 (First Floor, Dongyuan Hall, Building No. 5/西郊宾馆 5 号楼 1 层 东园餐厅)		
2019-9-26 5 号楼 金缘厅/ Building No. 5, Jinyuan Hall			
New Methods and Application Chairs: Qun Fang and Tony Jun Huang			
8:30-9:00	Acoustofluidics: merging acoustics and microfluidics for biomedical applications	Tony Jun Huang 黄俊	Duke University 杜克大学
9:00-9:30	A single biomolecule interface-for advancing the sensitivity, selectivity, and accuracy of sensors 纳米孔道单分子界面传感分析	Yitao Long 龙亿涛	Nanjing University 南京大学
9:30-10:00	Droplet-based microfluidic cell assay 基于液滴技术的微流控细胞分析	Qun Fang 方群	Zhejiang University 浙江大学
10:00-10:20	Tea Time/茶歇		
New Methods and Application Chairs: Yuki Hashi and Yonggang Zhu			
10:20-10:50	Microfluidic devices for long-term continuous and cell metabolite analysis	Yonggang Zhu 朱永刚	Harbin Institute of Technology (Shenzhen) 哈尔滨工业大学 (深圳)
10:50-11:20	Cell-based drug screening on microfluidics	Yan-Wei Jia	University of Macau 澳门大学

11:20-11:50	Introduction of cell microchip mass spectrometer (CM-MS) instrument and applications	Yuki Hashi 端裕树	Shimadzu China 岛津中国
11:50-13:30	Lunch Time/自助午餐 (Second floor, Shangyuan Cafeteria, Building No. 5/西郊宾馆 5 号楼二层 赏园餐厅)		
13:30-14:30	Poster Presentation /墙报展 评选		
New Methods and Applications Chairs: Zilin Chen and Haifang Li			
14:30-15:00	Microfluidics for rapid synthesis and screening of nanoscale drug carriers	Xingyu Jiang 蒋兴宇	Southern University of Science and Technology 南方科技大学
15:00-15:30	CE/CEC-MS for pharmaceutical and cell analysis	Zilin Chen 陈子林	Wuhan University 武汉大学
15:30-15:45	靶向多肽分子探针的微流控筛选检测与活体分 析传感	Weizhi Wang 王蔚芝	Beijing Institute of Technology 北京理工大学
15:45-16:00	Micro-arrays of artificial cells for cell function study	Xiaojun Han 韩晓军	Harbin Institute of Technology 哈尔滨工业大学
16:00-16:30	Publishing your cutting-edge research with the Royal Society of Chemistry	Guanqun Song 宋冠群	Royal Society of Chemistry 英国皇家化学会
16:30-17:00	Poster Award and Closing Remark/墙报奖颁奖，闭幕式		
18:00-20:00	Dinner Time/自助晚餐 (Second floor, Shangyuan Cafeteria, Building No. 5/西郊宾馆 5 号楼二层 赏园餐厅)		

Poster Presentation

墙 报 展

P-1	基于光电检测技术的微装置细胞分析	谭政	中国药科大学
P-2	超声驱动微涡流辅助微流控装置快速高效检测凝血酶	周敏	清华大学深圳研究生院
P-3	Rapid in situ photo-immobilization stable droplet array for digital PCR	何宇	浙江大学
P-4	基于微流控芯片的“虚拟”液滴系统用于单细胞 MMP9 分析	李颖	中科院武汉物理与数学研究所
P-4	硅纳米阵列对循环肿瘤细胞的分离	靳荣荣	复旦大学
P-5	Two-way detection of image features and immunolabeling of lymphoma cells with one-step microarray analysis	孙绪国	天津医科大学
P-6	基于微流平台的单细胞分离和质谱检测的方法学研究	黄秋实	清华大学
P-7	In situ monitoring of fluid shear stress enhanced adherence of bacteria to cancer cells on microfluidic chip	张婉玲	清华大学
P-8	流体剪切力对肿瘤细胞的黏附强度以及细胞硬度的影响	李玮玮	清华大学
P-9	Open space microfluidic design for in situ partial treatment of single adherent cells	张强	清华大学
P-10	Single Molecule Sensing of Amyloid- β Aggregation by Confined Glass Nanopore	于汝佳	南京大学
P-11	Monitoring Hydrogen Evolution Reaction Catalyzed by MoS ₂ Quantum Dots on a Single Nanoparticle Electrode	芦思珉	南京大学
P-12	A Peptide Conjugation Membrane Type-1 Matrix Metalloproteinase Responsive Probe for Real-Time Visualization of Cell Mig	李楠	清华大学
P-13	Multifunctional regulation of 3D cell-laden microsphere culture on an integrated microfluidic device	郑亚婧	清华大学
P-14	Concentrating Single Cells in Picoliter Droplets for Phospholipid Profiling on a Microfluidic System	张炜飞	清华大学
P-15	Single-cell adhesion analysis of circulating tumor cells on endothelial cell layer	毛思锋	清华大学
P-16	A florescent digital microfluidics platform for single Escherichia coli O157:H7 detection in femtoliter droplets	李红霞	上海交通大学
P-17	Perfusable glomerulus-on-a-chip model based on topographical hollow hydrogel microfiber	Ruoxiao Xie	清华大学
P-18	A centrifugation configuring gut-chip with canal and wrinkle morphology	Yu Wang	清华大学
P-19	A liver-on-a-chip platform for convenient, highly efficient, and safe in situ perfusion culture of 3D hepatic spheroids	Li-Dong Ma	清华大学
P-20	Microfluidics for bio-synthesizing: from droplets and vesicles to artificial cells	Yongjian Ai	清华大学

P-21	Fishing antitumor ingredients by G-quadruplex affinity from herbal extract on a three-phase-laminar-flow microfluidic chip	孙悦	广东中医药大学
P-22	Ultrasensitive detection of thrombin using MALDI-TOF mass spectrometry	吴增楠	北京化工大学
P-23	Engineering of hydrogel materials with perfusable microchannels for building vascularized tissues	Ruoxiao Xie	清华大学
P-24	Recent progress in lab-on-a-chip for pharmaceutical analysis and pharmacological/toxicological test	Yongjian Ai	清华大学
P-25	Construction of flexible liquid core waveguide Raman spectroscopy detection device and application in space	董海胜	清华大学
P-26	Effect of Dai-Bai-Jie on the Proliferation and Migration of the A549 Cells	卢新岭	天津大学

演讲嘉宾简介

Introduction of Keynote Speakers



Prof. Takehiko Kitamori

The University of Tokyo 东京大学

Title: Droplet-based microfluidic cell assay

Biography:

Professor Kitamori is Professor in the Department of Applied Chemistry, School of Engineering, the University of Tokyo (1998-present). He was Vice President of the University of Tokyo responsible for Human Resource Development and Internationalization (2012-14), after serving as Dean of Faculty and Graduate School of Engineering.

Prior to joining the University of Tokyo in 1989, he was a researcher at Hitachi's Energy Research Lab.

His areas of research are Micro/Extended-Nano Fluidics, Extended-Nano Space Chemistry, and Applied Laser Spectroscopy for Analytical Chemistry. He has received numerous honors for his innovative research, including CSJ Award (Chemical Society of Japan) and CHEMINAS Award (the Society for Chemistry and Micro-Nano Systems) in 2019, Simon-Widmer Award (Swiss Chemical Society) in 2017, IBM Faculty Award in 2017 and 2008, and the Japan Society for Analytical Chemistry Award in 2009. He was awarded an Honorary Doctorate from Lund University in 2016.

He served as a senior vice president of The Japan Society for Analytical Chemistry (2006-2008) and served as an associate editor of “Analyst” (RSC) (2011-present).



Prof. Bifeng Liu 刘笔锋 教授

Huazhong University of Science and Technology

华中科技大学

Title: Single cell cellomics with microfluidic chip

Biography:

Prof. Bifeng Liu received his Ph.D. degree of analytical chemistry in 1999 from Wuhan University (China) where he continued his postdoctoral research in the College of Life Science. From 2001, he moved to Japan as a JSPS postdoctoral fellow in Prof. S. Terabe. He joined Huazhong University of Science and Technology (China) as a professor in 2003. He is now serving as Deputy Dean of the College of Life Science and Technology. His research focuses on systems biology-oriented analytical science in the areas of microfluidics (or lab-on-a-chip) for bioanalysis, mass spectrometry coupled micro-separations for functional proteomics & molecular imaging. He is the author and co-author of over 150 original research papers and invited reviews published in international journals.



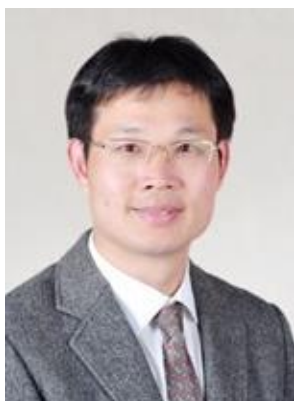
Prof. Seong Ho Kang 姜成浩 教授

Kyung Hee University 庆熙大学

Title: Fluorescent-free 3D Super-resolution Microscopy based on Wavelength-dependent Plasmonic Scattering Illumination

Biography:

Professor Seong Ho Kang received his B.S. and M.S. degrees in Chemistry from Kyung Hee University, Korea, in 1987 and 1989, respectively. He worked as a senior researcher and director of research at Hanil Pharmaceutical Co. from 1989 to 1997. He received his Ph.D. degree in Chemistry from Seoul National University, Korea, in 1998. He was a postdoctoral research associate scholar at Iowa State University and Ames Laboratory, U.S. Department of Energy, with Dr. Edward S. Yeung from 1998 to 2000. He then served as a senior researcher at Samsung Advanced Institute of Science and Technology (SAIT) from 2000 to 2002 and then as a professor of Chemistry at Chonbuk National University, Korea, from 2002 to 2010. He was a visiting (exchange) professor at Iowa State University and Ames Laboratory, U.S. Department of Energy from 2008 to 2010 and at Georgia State University from 2016 to 2017 in USA. He is currently a professor at Kyung Hee University, a position he has held since 2010. He is the author of 150 SCI papers and 20 patents. His current research interests include developments in various analytical systems and methods based on micro-/nano-separation, single-molecule detection-based super-resolution microscopy, nano-bio sensor and chip, and various nanobio-fusion technologies.



Prof. Chaoyong Yang 杨朝勇 教授

Xiamen University 厦门大学

Title: A Paired-Seq Approach for High-throughput Single-cell Transcriptome Sequencing

Biography:

Prof. Chaoyong Yang received his PhD from University of Florida in 2006 and conducted his postdoctoral research at the University of California, Berkeley from 2006 to 2007. In 2008, he joined Xiamen University where he is now the Lu Jiaxi Professor of Chemistry in the Department of Chemical Biology. He was the recipient of a CAPA Distinguished Faculty Award in 2012, a National Outstanding Young Investigator Award in 2013, a Chinese Young Analyst Award in 2015, and a Chinese Chemical Society–Royal Society of Chemistry Young Chemist Award in 2016. He is the Fellow of Royal Society of Chemistry and associate editor of ACS Applied Bio Materials. His current research is particularly focused on molecular engineering, molecular recognition, high throughput evolution, single-cell analysis and microfluidics.



Prof. Katsumi Uchiyama 内山一美 教授

Tokyo Metropolitan University 首都大学東京

Title: Possible application of push-pull nozzle system for single cell analyses and manipulation

Biography:

Prof. Uchiyama got PhD degree of pharmacology at Hoshi University (1987). He studied and worked in Hoshi University from 1983 to 1995. He moved to Tokyo Metropolitan University on 1995 as associate professor then he is currently a professor of Department of Applied Chemistry Tokyo Metropolitan University. His current research field is micro analytical chemistry, analytical use of ink-jet device, capillary electrophoresis and nano/micro fabrication of micro chemical device. He is the author and co-author of more than 200 original research papers and 13 books. He has 8 important patents on microfluidic device, inkjet and micro optical device. He was vice president of Japan Society of Analytical Chemistry (JSAC, 2013~2018), and currently he is president of JSAC (2019~2020). He was awarded a prize of Chemical Education from Chemical Society Japan at 2014, awarded most excellent paper (2001th, 2006th) Japanese Journal of Japan Society of Analytical Chemistry, and he received Otani Prize (1983).



Prof. Chunyang Xiong 熊春阳 教授

Peking University 北京大学

Title: Mechanical characterization of single cells based on microfluidic techniques

Biography:

Dr. Chunyang Xiong is currently a Professor in the Department of Mechanics and Engineering Science of Peking University. He received his B.S. degree (1995) in Mechanics and his Ph.D. degree (2000) in Experimental Mechanics from Peking University. Following two-year postdoctoral training in the Department of Electronics at Peking University, he joined the Department of Mechanics of Peking University in 2002 as a lecture. He became an associate professor in 2006 and a full professor in 2011 in PKU. His current research interests are interdisciplinary studies involving mechanics, molecular cell biology, micro/nano technology, including cell mechanics, mechanobiology, microfluidic chip, micromechanics of soft matter. Dr. Xiong has published ~80 papers (~1,400 citations and h index=26, according to Google Scholar).



Prof. XiuJun Li 李秀军 副教授

University of Texas at El Paso

德州大学埃尔帕索分校

Title: Microfluidic Platforms for Single-cell Analysis

Biography:

XiuJun (James) Li, Ph.D., is an Associate Professor with early tenure in the Department of Chemistry and Biochemistry, and Biomedical Engineering at University of Texas at El Paso (UTEP). Dr. Li's current research interest is centered on the development of innovative microfluidic lab-on-a-chip and nanotechnology for bioanalysis, environmental, catalysis, and biomedical engineering applications, including but not limited to low-cost diagnosis, nano-biosensing, tissue engineering, and single-cell analysis. He has authored/coauthored about 70 publications in high-impact journals (such as *Adv. Drug Deliv. Rev.*, *Appl. Catal. B-Environ.*, *Proc. IEEE*, *Anal. Chem.*) and 17 patents, guest edited a thematic issue "Miniaturized platforms and methods for pharmaceutical studies" in *Current Pharmaceutical Biotechnology*. He published a book of "*Microfluidic Devices for Biomedical Applications*" from Elsevier in 2013. He has been invited to serve in 6+ journal editorial boards including Scientific Reports from the Nature Publishing Group. He is the recipient of the "Bioanalysis Young Investigator Award" in 2014, Outstanding Performance Awards from UTEP in 2013-2017 (three times), UT STARS Award in 2012, NSERC Postdoctoral Fellow Award (2009), Chinese Government Award for Outstanding Self-financed Graduate Student Abroad (2004), Dean of Graduate Studies Convocation Medal (SFU) in 2009, UTEP Faculty Research Mentoring Award (2016 & 2018, twice), NIH BUILDing Scholar Mentoring Award (2017), and so on.



Prof. Jin-Ming Lin 林金明 教授

Tsinghua University 清华大学

Title: Chemical operations on a living single cell by open microfluidics

Biography:

Professor Jin-Ming Lin graduated from Fuzhou University and received a PhD at Tokyo Metropolitan University in 1997. He had studied and worked in Showa University and Tokyo Metropolitan University during 1992-2002. He was selected as “100 Talented Researcher Program” for Chinese Academy of Sciences, and obtained the Fund for Distinguished Young Scholars of National Natural Science Foundation of China at 2001. He had been a full professor in Research Center for Eco-Environmental Sciences, Chinese Academy of Science during 2002-2004. He is currently a full professor of Department of Chemistry, Tsinghua University since 2004, and was selected as Cheung Kung Scholars Professor of Ministry of Education, China at 2008. He is a Fellow of Royal Chemical Society, a General Secretary and deputy director of the Committee of Mass Spectrometry in Chinese Chemical Society, and service as contributing editor of Trends in Analytical Chemistry, associate editors of Journal Pharmaceutical Analysis, Luminescence and Chinese Chemical Letters. He is the author and co-author of 458 original research papers published in international journals, 45 reviews, 4 books and 48 patents. He has received many awards from China and Japan.

His current research is focused on cell analysis, microfluidics with mass spectrometry (Chip-MS), and chemiluminescence.



Prof. Yan Xu 许岩 副教授

Osaka Prefecture University 大阪府立大学

Title: Towards molecular manual-assembly: nanofluidic manipulation of single nanometric objects and extracellular vesicles

Biography:

Yan Xu is an Associate Professor (tenured) and the principal investigator of the Nanofluidics Lab at Osaka Prefecture University, Japan. He concurrently serves as a PRESTO researcher at the Japan Science and Technology Agency (JST). He received his bachelor's degree (2001) from Dalian University of Technology and his master's degree (2004) from Dalian Institute of Chemical Physics, Chinese Academy of Sciences. He completed his Ph.D. (2007) at the University of Tokyo. Research in his group is directed toward the use of nanofluidic devices for chemistry, biology, and materials science at femtoliter, attoliter, and single molecule scales. His research group continues to involve the study and development of novel nanofluidic methods for single cell omics, single molecule chemistry, biomaterials, and nanomedicine. He has recently (co-) authored over 60 micro-/nanofluidics-related papers in Adv. Mater., Small, Biomaterials, ACS Appl. Mater. Interfaces, Lab Chip, etc., with seven papers featured on the covers of the journals. He has been invited to write reviews for Adv. Mater. and other top journals. He has also delivered many invited talks (eg., 40+ after 2015) and received several awards from Japan, USA, and China.



Prof. Wei-Hua Huang 黄卫华 教授

Wuhan University 武汉大学

Title: Three-dimensional microfluidic device for in vitro and in vivo detection of circulating tumor cells

三维微流控芯片体外及体内检测循环肿瘤细胞

Biography:

Dr. Wei-Hua Huang is currently a Professor in the College of Chemistry and Molecular Sciences at Wuhan University. He got his Bachelor Degree and Doctoral Degree from Wuhan University in 1996 and 2002, respectively, and then stayed therein as a faculty. After spending one year at Ecole Normale Supérieure as a Postdoctor, he has been a full professor at Wuhan University from 2007. His primary research interests focus on development of micro or nanoscale analytical techniques and explore their use in the monitoring of single cells. He has expertise in biosensors, electroanalytical chemistry, and microfluidics. He has published more than 90 publications in the peer-reviewed journal including such as *Angew. Chem. Int. Ed.*, *JACS*, *ACS Nano*, *Chem. Sci.*, *Anal. Chem.* and *Lab Chip*. His research has been supported by a number of grants from Natural Science Foundation of China (NSFC), Ministry of Science and Technology of China (MOST) and other funding agencies. He has won several awards including the first prize of Natural Science in Hubei Province, the Program for New Century Excellent Talents in University of Ministry of Education (MOE), and the National Science Foundation for Distinguished Young Scholars.



Prof. Jiashu Sun 孙佳姝 研究员

National Center for Nanoscience and Technology

国家纳米科学中心

Title: Microfluidic techniques for cancer liquid biopsy

基于微流控技术的循环肿瘤标志物分离分析

Biography:

Jiashu Sun is a Professor at National Center for Nanoscience and Technology (NCNST), China. She obtained her Ph. D. (2010) from Vanderbilt University, United States, and joined the NCNST in 2011. Jiashu's research interests include microfluidics-based technologies for cancer diagnostics, fluid dynamics, and nanomedicine. She has published over 60 peer-reviewed journal articles on *Nature Biomedical Engineering*, *Nature Communications*, *Chemical Society Reviews*, *Angewandte Chemie International Edition*, *Advanced Materials*, *Nano Letters*, *ACS Nano*, *Analytical Chemistry*, *Lab on a Chip*, *Small*, *Nanoscale*, etc.



Prof. Jinyi Wang 王进义 教授

Northwest A&F University

西北农林科技大学

Title: 基于微流控芯片的肝组织结构单元构建及组装

Biography :

王进义，西北农林科技大学教授，博士生导师。1993 年本科毕业于北京化工大学，2002 年于兰州大学化学化工学院获博士学位（硕博连读）。2002 年 6 月至 2006 年 8 月先后在中国科学院上海有机化学研究所(2002-2004)和美国加州大学洛杉矶分校(2004-2006)从事博士后研究工作，2006 年 8 月至今就职于西北农林科技大学。2008 年入选“教育部新世纪优秀人才支持计划”，2009 年评为“陕西省优秀留学回国人员”，2012 年享受国务院政府特殊津贴，2014 年获得全国优秀教师称号，2015 年获得陕西省高等学校自然科学一等奖。先后在 *Angew. Chem. Int. Ed.*, *Chem. Mater.*, *Biomaterials*, *Biosens. Bioelectron.*, *Nanoscale*, *Anal. Chem.*, *Lab Chip* 等国际主流期刊发表 SCI 期刊论文百余篇。主持国家自然科学基金 6 项；获国家发明专利 5 项；参编英文专著 2 部。

目前主要从事微纳米尺度生命分析化学的教学与研究工作。



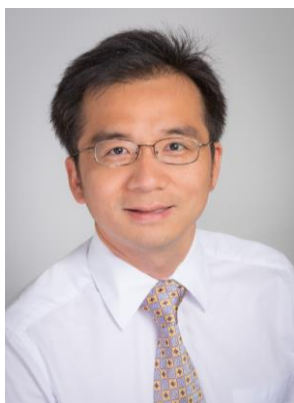
Prof. Qionglin Liang 梁琼麟 副教授

Tsinghua University 清华大学

Title: Perfusable 3D-glomerulus-on-a-chip fabricated with topographical hollow hydrogel microfiber

Biography:

Dr. Qionglin Liang got his Sc.B and Ph.D at Department of Chemistry, Tsinghua University successively in 2000 and 2005 respectively, and then serve here as assistant professor (since 2005), associate professor (since 2010) and Chairman of the Department Council (since 2015). His research interests focused on bio-inspired microfluidics, supported by Education Ministry's New Century Excellent Talents Supporting Plan and several national major programs (NSFC, MOST, MOE). He has published over 150 peer-reviewed papers in high-impact journals such as *Adv. Mater.*, *Adv. Sci.*, *Cell*, *Anal Chem* and *Lab chip*, with over 3500 citations, claimed over 20 patents, co-authored five monographs and have also shared thrice of National Scientific and Technological Advance Prize. He has been elected as Chair of the Committee of Young Scientists of Beijing Physical & Chemistry Testing Technology Society, Vice Chair of the Committee of Young Scientists of China Association of Instrumental Analysis (CAIA), Secretary-general of Pharmaceutical Analysis Technology Committee of China Medicinal Biotechnology Association (CMAB).



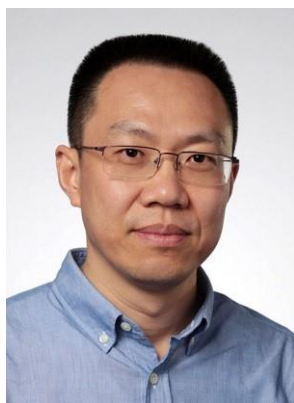
Prof. Tony Jun Huang 黄俊 教授

Duke University 杜克大学

Title: Acoustofluidics: merging acoustics and microfluidics for biomedical applications

Biography:

Tony Jun Huang is the William Bevan Professor of Mechanical Engineering and Materials Science at Duke University. Previously he was a professor and the Huck Distinguished Chair in Bioengineering Science and Mechanics at The Pennsylvania State University. His research interests are in the fields of acoustofluidics, optofluidics, and micro/nano systems for biomedical diagnostics and therapeutics. He has authored/co-authored over 210 peer-reviewed journal publications in these fields. His journal articles have been cited more than 15,000 times, as documented at Google Scholar (h-index: 66). He also has 26 issued or pending patents. He was elected a fellow of the following five professional societies: the American Institute for Medical and Biological Engineering (AIMBE), the American Society of Mechanical Engineers (ASME), the Institute of Electrical and Electronics Engineers (IEEE), the Institute of Physics (IOP), and the Royal Society of Chemistry (RSC). Huang's research has gained international recognition through numerous prestigious awards and honors including a 2010 National Institutes of Health (NIH) Director's New Innovator Award, a 2012 Outstanding Young Manufacturing Engineer Award from the Society for Manufacturing Engineering, a 2013 American Asthma Foundation (AAF) Scholar Award, JALA Top Ten Breakthroughs of the Year Award in 2011, 2013, and 2016, the 2014 IEEE Sensors Council Technical Achievement Award from the Institute of Electrical and Electronics Engineers (IEEE), the 2017 Analytical Chemistry Young Innovator Award from the American Chemical Society (ACS), the 2019 Van Mow Medal from the American Society of Mechanical Engineers (ASME).



Prof. Yitao Long 龙亿涛 教授

Nanjing University 南京大学

Title: A single biomolecule interface-for advancing the sensitivity, selectivity, and accuracy of sensors

纳米孔道单分子界面传感分析

Biography:

Yi-Tao LONG, Cheung Kong Professor. He received his BS degree (1989) in chemistry from Shandong University, MS degree (1996) and Ph.D. degree (1998) in bio-electroanalytical chemistry from Nanjing University. After completing 2 years postdoctoral study at Heidelberg University, he worked as a Research Scientist at University of Saskatchewan and University of Alberta, Canada. From 2006 to 2007, he worked as an Associate Specialist at University of California, Berkeley. Then, he was appointed as a professor at ECUST to start his independent research. He is now a full professor in School of Chemistry and Chemical Engineering at Nanjing University (2019-). He has been an honorary visiting professor at University of Birmingham (2014-2020), visiting professor at University of Bath (2011-) and University of Western Ontario (2014-). His main research expertise involves nanopore single-molecule electroanalysis, nano-spectroscopy, bio-interfaces spectroelectrochemistry and integrated biosensors. He has published more than 280 peer-reviewed papers, including *Nat. Nanotech.*, *Nat. Methods.*, *Nat Commun.*, *Nat Protoc.*, *J. Am. Chem. Soc.*, *Angew. Chem. Int.*, 5 books/chapters and he holds 34 China national patents and 2 international patents. He is an elected Fellow of the Royal Society Chemistry and an Associate Editor of the journal *Chemical Science* and *ACS Sensors*. He serves as editorial board member for *Microchimica Acta*, *Theranostics*, *Chem. Electro. Chem.*



Prof. Qun Fang 方群 教授

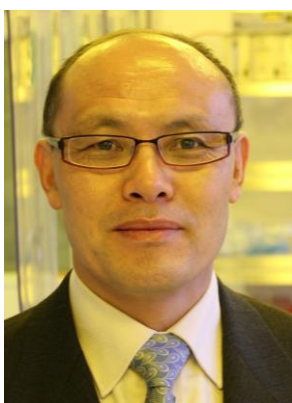
Zhejiang University 浙江大学

Title: Droplet-based microfluidic cell assay

基于液滴技术的微流控细胞分析

Biography:

Dr. Qun Fang is Qiu Shi Distinguished Professor in the Department of Chemistry at Zhejiang University, and the Director of Institute of Microanalytical Systems at Zhejiang University. He received his Ph.D. in pharmaceutical analysis from Shenyang Pharmaceutical University in 1998. After one year as a postdoctoral research assistant in Hong Kong Baptist University, he joined the Institute of Microanalytical Systems at Zhejiang University as an Associate Professor in 2000, and was promoted to Full Professor in 2003. He was the winner of the China National Funds for Distinguished Young Scientists (2008). His research interests include microfluidic analysis, capillary electrophoresis, and miniaturization of analytical instruments, especially in the development of automated high-throughput sample introduction, analysis and screening techniques. He has published more than 110 peer-reviewed papers in these areas.

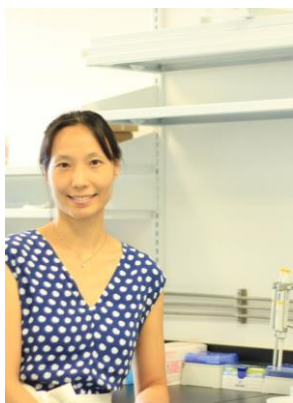


Prof. Yonggang Zhu 朱永刚 教授
Harbin Institute of Technology (Shenzhen)
哈尔滨工业大学（深圳）

Title: Microfluidic devices for long-term continuous and cell metabolite analysis

Biography:

Professor Yonggang Zhu is currently a Professor and director of Center for Microflows and Nanoflows at Harbin Institute of Technology, ShenZhen, China, and a Joint Professor at School of Science, RMIT University, Australia. Prior to this, he held the positions of Senior Principal Research Scientist and Research Team Leader for the Microfluidics and Fluid Dynamics Team in CSIRO Australia, Senior Technology Fellow at Melbourne Centre for Nanofabrication. His current research interests include micro- and nanoscale thermal & fluid flows, lab on a chip devices, microthermal systems, multiphase flows and micro-sensors. He has led many research and development projects in developing advanced technologies for chemical and biological sensing, new materials development, thermal management systems and industry applications. Prof. Zhu has published over 200 papers including book chapters, journal articles, conference papers and technical reports. He is the winner of 2012 Australian Museum Eureka Science Prize for Outstanding Science in Support of Defence or National Security.



Prof. Yanwei Jia 贾艳炜 助理教授

University of Macau 澳门大学

Title: Cell-based Drug Screening on Microfluidics

Biography:

Yanwei Jia received her PhD, MSc and BSc degrees in Physics from the National University of Singapore (2006) and Hunan University in China (2002 and 1996) respectively. After PhD graduation, Jia had worked as a Research Fellow in the National University of Singapore in 2006 before she moved to Brandeis University in the USA, working as a Postdoctoral Fellow, Research Associate and Research Scientist chronically (2006-2012). She is currently an assistant professor in the State Key Laboratory of Analog and Mixed-Signal VLSI (AMSV), leading a group working on multidisciplinary research based on microfluidics for biological/chemical applications, especially in the field of biomedical science. She won the Innovation Prize in 2008 given by the International Organization for Biological Crystallization. She also won the Innovation Award in 2019 on the 9th International Multidisciplinary Conference on Optofluidics given by Nature Communications and 100 International Society.



Dr. Yuki Hashi 端裕树 博士

Shimadzu China 岛津中国

Title: Introduction of Cell Microchip Mass Spectrometer (CM-MS) instrument and applications

Biography:

Dr. Hashi graduated from Dept. of Chemistry, Osaka University, Osaka, Japan in 1986. At the same year, he joined Shimadzu Corporation, analytical instrument division to develop HPLC instrument especially electrochemical detector and column packing materials for protein analyses. In 1994, he moved to Shimadzu Singapore as an application manager for chromatography instruments to take care of the customers in South-East Asia as well as south Asia countries. His major area of interest is development of new application system using LC, GC, LCMS and GCMS for the enhancement of analysis efficiency. Based on this research work, he has received a Ph.D. degree from Research Center for Eco-Environmental Sciences, The Chinese Academy of Sciences in 2009. He is developing new analytical methods with Chromatographic system extensively in the various fields such as food safety, environmental, pharmaceutical and life science (genomics and proteomics). Beside his research work, he is also actively providing the lecture of basic instrumentation in university, and contributing his papers to some technical conferences. Currently, he is a guest professor of Wuhan University, Beijing University Chemical Technology and Southwest University.



Prof. Xingyu Jiang 蒋兴宇 教授
Southern University of Science and Technology
南方科技大学

Title: Microfluidics for rapid synthesis and screening of nanoscale drug carriers

Biography:

Xingyu Jiang is a Chair Professor at the Southern University of Science and Technology, Shenzhen, China. He obtained his BS at the University of Chicago (1999) and PhD at Harvard University (with Prof. George Whitesides, 2004). In 2005, he joined the National Center for NanoScience and Technology and the University of the Chinese Academy of Sciences. He moved to the Southern University of Science and Technology in 2018. His research interests include microfluidics and nanomedicine. He was awarded the “Hundred Talents Plan” of the Chinese Academy of Sciences, the National Science Foundation of China’s Distinguished Young Scholars Award, the Scopus Young Researcher Gold Award, the Human Frontier Science Program Young Investigator Award. He is a Fellow of the Royal Society of Chemistry, an associate editor of *Nanoscale* (Royal Society of Chemistry, UK).



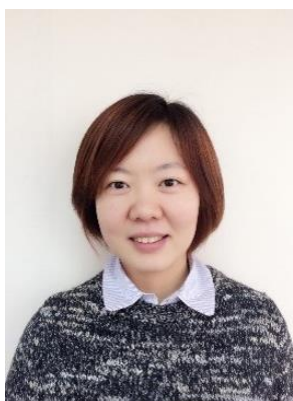
Prof. Zilin Chen 陈子林 教授

Wuhan University 武汉大学

Title: Towards molecular manual-assembly: nanofluidic manipulation of single nanometric objects and extracellular vesicles

Biography:

Dr. Zilin Chen currently works as LuoJia Chair Professor, vice dean of School of Pharmaceutical Sciences and director of Institute for Pharmaceutical Analysis and Drug Screening in Wuhan University. Prof. Chen received his Ph.D. degree in applied chemistry in 2000 from Tokyo Metropolitan University (TMU), Japan. He then worked as a postdoctoral fellow of Japan Society for the Promotion of Science (JSPS) at TMU, a postdoctoral fellow at NTT Microsystem Integration Labs, Japan and a research assistant professor at University of Notre Dame, USA. He joined in Wuhan University as LuoJia Chair Professor in 2007. He has over 150 peer-reviewed research papers published in international journals. His research interests include the micro-column chromatography, capillary electrophoresis and mass spectrometry for biological and pharmaceutical analysis. He initiated and organized first international symposium on Advances in Pharmaceutical Analysis (APA) in 2017 at Wuhan. He serves as members of several academic associations and associate editor of Journal of Pharmaceutical Analysis.



Dr. Guanqun Song 宋冠群 博士

Royal Society of Chemistry 英国皇家化学会

Title: Publishing your cutting-edge research with the Royal Society of Chemistry

Biography:

The Royal Society of Chemistry is the world's leading chemistry community, advancing excellence in the chemical sciences. We have published 44 peer reviewed journals with the scope covering all chemistry subjects. This talk will give an overview of the scopes and peer review for RSC journals, focusing on the key messages from analytical chemistry portfolio including Analyst, Analytical Methods, and Lab on a Chip.

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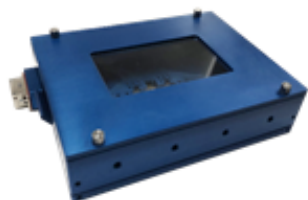
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- 芯片尺寸: 通道宽 $> 5 \mu m$, 深 $> 10 \mu m$, 按需定制
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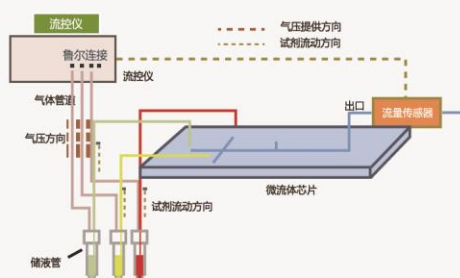


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目前科研领域中采用比较多的注射泵实现的微流体恒流进样控制方法只能提供有限的控制通道。如果需要4个以上的通道，需要几个并行的注射泵，价格昂贵而且设备占据空间大。此外注射泵提供的流体会有脉冲。压力控制通过调节压力源的压力来实现精确而稳定无脉冲的压力输出。由于此方法便于系统集成，占有空间少，流体对系统没有污染，所以在工业界开发产品应用的比较普遍。PG-MFCS微流体控制仪集压力和流速控制于一体，实现快速稳定的无脉冲压力输出，所以该款流控仪既适用于工业产品的开发应用，又可以用于科研开发。

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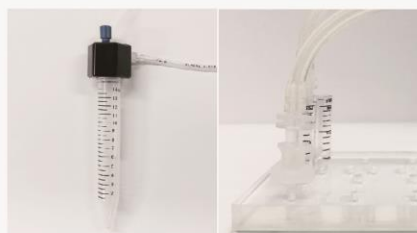
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