

Westlake AIVC Week

Date: **3-8 August, 2026**

Venue: Yungu Campus, Westlake University, Hangzhou, China

Supported by:

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3 Aug., 2026 Workshop: QC and Standards for AIVC

Session 1 AIVC 算据标准共识

- 8:00-8:05 ● **Opening**
Tiannan Guo 郭天南 Westlake University
Chair: Xiaoman Wang 王潇蔓
- 8:05-8:25 ● **From Digital Twins to Virtual Cells: An AI-Driven Paradigm Shift in Precision Medicine**
Kang Zhang 张康 Wenzhou Medical University
- 8:25-8:45 ● **单细胞空间组学基准评价体系研究**
Bin-Zhi Qian 钱斌治 Fudan University
- 8:45-9:05 ● **Multi-omics Integration and Computational modeling of Transcriptional Isoform Diversity in Human Diseases**
Xudong Zou 邹旭东 Shenzhen Bay Laboratory
Chair: Xudong Zou 邹旭东
- 9:05-9:25 ● **Proteomics Quality Control and Standardization for AI Virtual Cells: From Comparable Data to an Evolving Reference Atlas**
Zilu Ye 叶子璐 Institute of Systems Medicine, Chinese Academy of Medical Sciences / Suzhou Institute of Systems Medicine
- 9:25-9:45 ● **面向 AGI4S 的科学数据基座**
Lijun Wu 吴郢军 Shanghai Artificial Intelligence Laboratory
- 9:45-10:00 ● **Panel Discussion**
Invited Discussion Panelist: Fanglian He 何芳连, Bio-protocol

Session 2 国家标准制定

- 10:00-10:05 ● **Opening**
Leming Shi 石乐明 Fudan University and International Human Phenome Institutes (Shanghai)
Chair: Ping Xu 徐平
- 10:05-10:25 ● **AI需要公共标尺——可信组学AI的实践探索**
Xiang Fang 方向 National Institute of Metrology, China
- 10:25-10:45 ● **Reference Materials as a Common Ruler for the AI-Multiomics Era**
Leming Shi 石乐明 Fudan University and International Human Phenome Institutes (Shanghai)
- 10:45-11:05 ● **生物计量与生物表型标准的发展**
Jing Wang 王晶 National Institute of Metrology, China

Chair: Xiang Fang 方向

- 11:05-11:25 ● **TBD**
Zhiqiang Wang 王志强 China National Institute of Standardization (CNIS)
- 11:25-11:45 ● **体外诊断 (IVD) 相关国内外标准现状和趋势**
LiLi Wang 王丽丽 Beijing Institute of Medical Device Testing
- 11:45-12:05 ● **从蛋白质组标准化的视角, 看“AI 虚拟细胞”的数据底座**
Ping Xu 徐平 National Center for Protein Sciences (Beijing)
- 12:05-12:20 ● **Panel Discussion**
- 12:20-14:00 ● **Lunch**

3 Aug., 2026 Workshop: Immunopeptidomics & Membrane proteomics

- 14:00-14:05 ● **Opening**
Pouya Faridi Monash University
- Chair: Ying Zhang 张莹**
- 14:05-14:35 ● **The Immunopeptidome: What We See, What We Miss, and Where to Look Next**
Pouya Faridi Monash University
- 14:35-15:05 ● **3D Immunopeptidomics to Cure Cancer**
Etienne Caron Yale School of Medicine
- 15:05-15:35 ● **Panel Discussion**
- 15:35-15:50 ● **Break**
- 15:50-16:20 ● **A Systematic Toolbox for Cell Surface Proteomics Analysis**
Ying Zhang 张莹 Fudan University
- 16:20-16:50 ● **Decoding the endogenous GPCR proteome and interactome**
Wenqing Shui 水雯菁 ShanghaiTech University
- 16:50-17:20 ● **Technology for Studying Protein Folding and Interactions in Living Cells**
Qun Zhao 赵群 Dalian Institute of Chemical Physics, Chinese Academy of Sciences
- 17:20-17:50 ● **Panel Discussion**

4 Aug., 2026 Workshop: Blood Proteomics

9:00-9:10	Opening Tiannan Guo 郭天南 Westlake University Chair: Lili Niu 牛丽丽
9:10-9:25	From MAQC-II to AI-Multiomics: Lessons Learned in Biomarker Development Leming Shi 石乐明 Fudan University and International Human Phenome Institutes (Shanghai)
9:25-9:40	A standardized framework for circulating blood proteomics Xue Cai 蔡雪 Westlake University
9:40-9:55	Systematic evaluation of blood contamination in nanoparticle-based plasma proteomics Yingrui Wang 王瑛睿 Westlake University
9:55-10:10	TBD Yang Zhao 赵洋 National Institute of Metrology, China
10:10-10:25	Break Chair: Ying Wang 王莹
10:25-10:40	Plasma proteomics in 6,000 individuals resolves genetic setpoints, physiological dynamics, and a cross-etiology liver fibrosis panel Lili Niu 牛丽丽 Institute of Chemical Biology, Shenzhen Bay Laboratory
10:40-10:55	Blood pQTL Analysis of Autism Spectrum Disorders Min-Sik Kim Daegu Gyeongbuk Institute of Science and Technology (DGIST)
10:55-11:15	Biomarker Discovery: From Protein Microarrays to PhIP-seq Sheng-Ce Tao 陶生策 Shanghai Center for Systems Biomedicine, Shanghai Jiao Tong University
11:15-11:30	Large-scale Autoantibody Profiling in Human Disease Populations Xiaobo Yu 于晓波 National Center for Protein Sciences (Beijing)
11:30-12:00	Panel Discussion
12:00-14:00	Lunch & Break

4 Aug., 2026 Workshop: Spatial and single cell proteomics (with Hands-on Session)

Chair: Zhen Dong 董振

- 14:00-14:30 ● **FAXP Technology Introduction**
Zhen Dong 董振 Westlake University
- 14:30-15:00 ● **FAXP Practical Session – Part 1 (Location: E8-218)**
Zhen Dong 董振 Westlake University
- 15:00-15:10 ● **Transition + Registration**
- Chair: Zilu Ye 叶子璐
- 15:10-15:40 ● **High-Throughput Spatial Proteome Analysis by Bottom-up and Top-down Strategies**
Lihua Zhang 张丽华 Dalian Institute of Chemical Physics, Chinese Academy of Sciences
- 15:40-16:10 ● **Microfluidic Single-Cell Proteomic Analysis**
Qun Fang 方群 Zhejiang University
- 16:10-16:25 ● **Break**
- 16:25-16:55 ● **Development and Application of High-Throughput and Ultra-Sensitive Single-Cell Proteomics Technologies**
Zilu Ye 叶子璐 Institute of Systems Medicine, Chinese Academy of Medical Sciences / Suzhou Institute of Systems Medicine
- 16:55-17:20 ● **Panel Discussion**
- 17:20-17:30 ● **Transition**
- Chair: Zhen Dong 董振
- 17:30-18:05 ● **FAXP Practical Session – Part 2 (Location: E8-218)**
Zhen Dong 董振 Westlake University

5 Aug., 2026 Workshop: Spatial and single cell proteomics (with Hands-on Session)

Chair: Zhen Dong 董振

9:00-10:00 ● **FAXP Practical Session – Part 3 (Location: E8-218)**
Zhen Dong 董振 Westlake University

10:00-10:10 ● **Transition**

Chair: Minrui Liang 梁敏锐

10:10-10:45 ● **Beyond expression: unravelling the complexities of the subcellular biology**
Kathryn Lilley University of Cambridge

10:45-11:20 ● **Benchmarking AI agents for multiomics analysis**
Kiryl D. Piatkevich Westlake University

11:20-12:00 ● **Panel Discussion**

12:00-14:00 ● **Lunch & Break**

Chair: Zhen Dong 董振

14:00-15:00 ● **FAXP Practical Session – Part 4 (Location: E8-218)**
Zhen Dong 董振 Westlake University

15:00-15:10 ● **Transition**

Chair: Weijie Qin 秦伟捷

15:10-15:45 ● **Spatial visual proteomics**
Ruijun Tian 田瑞军 Southern University of Science and Technology

15:45-16:20 ● **Strategies to Overcome Sensitivity and Throughput Bottlenecks in Single-Cell and Spatial Proteomics**
Weijie Qin 秦伟捷 National Center for Protein Sciences (Beijing)

16:20-16:55 ● **AI-driven spatial omics research**
Ruiqiao He 何睿乔 Institute of Zoology, Chinese Academy of Sciences

16:55-17:20 ● **Multimodal AI-enabled mass spectrometry-based expansion proteomics for whole-slide at single-cell resolution**
Shuaiyao Wang 王帅尧 Westlake University

17:20-18:00 ● **Panel Discussion**

6 Aug., 2026 AIVC Symposium

Day 1

Chair: Rui Sun 孙瑞

- 9:00-9:30 ● **Spatiotemporal proteomics for constructing virtual cells**
Tiannan Guo 郭天南 Westlake University
- 9:30-10:00 ● **TBD**
Charlie Boone University of Toronto
- 10:00-10:05 ● **Flash Talk: PDIs-mediated disulfide bonding regulates the selective interaction of the RALF22 peptide with LRXs and FER**
Zhihui Li 李智慧
- 10:05-10:35 ● **TBD**
Patrick Cai University of Manchester
- 10:35-10:40 ● **Flash Talk: OBC: Optimized Batch Correction with Dual-level Quality Control for Scalable Proteomics and Metabolomics**
Helong Zheng 郑和龙
- 10:40-11:10 ● **Automated single cell image analysis for morphological profiling in yeast**
Brenda Andrews University of Toronto
- 11:10-11:15 ● **Flash Talk: Characterizing and Mitigating Cross-library PCR Chimeras in Perturb-seq Using Perturb-Audit**
Xin Song 宋辛
- 11:15-11:45 ● **Virtual Cells from the Perspective of Synthetic Biology and Biomanufacturing**
Anping Zeng 曾安平 Westlake University
- 11:45-11:50 ● **Flash Talk: Virtual *E. coli***
Bozitao Zhong 钟博子韬
- 11:50-12:05 ● **The First AIPC Awards Ceremony**
- 12:05-14:00 ● **Lunch & Poster**
- Chair: Feiran Li 李斐然
- 14:00-14:30 ● **Model Cells in silico: what do we miss?**
Ge Gao 高歌 Peking University
- 14:30-15:00 ● **AI for Life Science: from Biomolecules to Virtual Cells**
Stan Z. Li 李子青 Westlake University
- 15:00-15:30 ● **TBD**
Fei Sun 孙飞 Guangzhou Institute of Biomedicine and Health
- 15:30-16:00 ● **From Language Harmonization to World Model: The Two Tales of Building AIVC**
Qi Liu 刘琦 Tongji University

Chair: Liujia Qian 钱蓓佳

- 16:00-16:30 ● **Towards Virtual Cells: Integrating AI and Mechanistic Modeling**
Feiran Li 李斐然 Tsinghua University
- 16:30-17:00 ● **Decoding Spatial Gene Regulatory Logic with STARNet**
Jianyang Zeng 曾坚阳 Westlake University
- 17:00-17:30 ● **Multiscale Volume EM: Accelerating Ultrastructural Atlas Construction**
Yalin Wang 王亚林 Westlake University
- 17:30-18:00 ● **TBD**
Haiguang Liu 刘海广 Zhongguancun Academy
- 18:00-18:30 ● **Panel Discussion**
- 18:30-19:00 ● **Poster Session**

- 15:10-15:40 ● **Toward Predictive Virtual Cells: Organelle Contact Pharmacology and Spatial Pharmacology for Next-Generation Drug Discovery**
Ho Jeong Kwon Yonsei University
- 15:40-15:45 ● **Flash Talk: Large Scale Foundation Model on Single-cell Transcriptomics**
Xiaoming Zhang 张晓明
- 15:45-16:15 ● **TBD**
Luyi Tian 田鲁亦 Guangzhou Laboratory
- 16:15-16:20 ● **Flash Talk: Benchmarking Virtual Cell Models for In-the-Wild Perturbation Response**
Xinjie Mao 毛心洁
- 16:20-16:50 ● **AI Virtual Cells: Model Progress and Reflections on Evaluation**
Zhangyang Gao 高张阳 Shanghai Artificial Intelligence Laboratory
- 16:50-16:55 ● **Flash Talk: Toward Prokaryotic Virtual Cell Modeling: Multitask Representation Learning from Genome-Encoded Protein Repertoires to Bacterial Phenotypes**
Jinling Yuan 袁金铃
- 16:55-17:10 ● **Break & Poster**
Chair: Rui Sun 孙瑞
- 17:10-17:30 ● **Omics Dynamical Models and the Construction of a Reusable Research Ecosystem**
Yongge Li 李永歌 DP Technology
- 17:30-17:35 ● **Flash Talk: Single-cell virtual perturbation and transcriptomic drug reversal nominate host-directed therapeutic strategies for respiratory syncytial virus infection**
Rongrong Liu 刘蓉蓉
- 17:35-17:40 ● **What Makes a Virtual *E. coli* Identifiable? An Experimental-Design View**
Heng Jiang 蒋恒 Westlake University
- 17:40-17:45 ● **Flash Talk: Super-multiplexed label-free Raman imaging uncovers novel testicular metabolic couplings for residual body and spermatogonial differentiation**
Xiaoyu Zhao 赵晓宇
- 17:45-17:50 ● **Flash Talk: IDEAL-Age: an interpretable deep learning framework for single-cell resolution profiling of immunological aging**
Yin Xu 许寅
- 17:50-17:55 ● **Flash Talk: Towards interpretable virtual cell model**
Weixu Wang 汪伟旭
- 17:55-18:00 ● **Flash Talk: A Cross-Scale Virtual-Cell Framework for Neurodegenerative Disease: Integrating Brain MRI, Single-Nucleus Transcriptomics, and Organoid Imaging**
Limin Xu
- 18:00-18:05 ● **Flash Talk: An interpretable AI-driven virtual cell platform for high-throughput discovery of synergistic drug combinations to overcome platinum resistance in ovarian cancer**
Jing Wang 黄晶
- 18:05-18:35 ● **Panel Discussion**

8 Aug., 2026 Workshop: AI proteomics

Chair: Wen-Feng Zeng 曾文锋

- 9:00-9:20 ● **Opening + AI proteomics perspective**
 Tiannan Guo 郭天南 Westlake University
- 9:20-9:50 ● **MassNet**
 Jun A 阿俊, Zhiwei Liu 刘志伟 Westlake University
- 9:50-10:10 ● **TBD**
 Siqi Sun 孙思琦 Fudan University
- 10:10-10:30 ● **Enhancing Proteomics Data Analysis with AI**
 Fang Wang 王芳 Tencent AI for Life Sciences Lab
- Chair: Fang Wang 王芳
- 10:30-10:50 ● **AI for Mass Spectrometry Analysis in Glycoproteomics**
 Yi Yang 杨奕 Zhejiang University
- 10:50-11:10 ● **TBD**
 Shisheng Sun 孙士生 Northwest University
- 11:10-11:30 ● **When Will AI *De Novo* Peptide Sequencing Be Ready for Applications? An Immunopeptidomics Perspective**
 Wen-Feng Zeng 曾文锋 Westlake University
- 11:30-12:00 ● **Panel Discussion**
- 12:00-14:00 ● **Lunch & Break**
- Chair: Yi Yang 杨奕
- 14:00-14:20 ● **Research on Application of Mass Spectrometry-Based Proteomics Data Analysis and Experimental Quality Control**
 Chao Liu 刘超 Beihang University
- 14:20-14:40 ● **TBD**
 Zeping Mao 毛泽平 University of Waterloo
- 14:40-14:50 ● **iDIA-QC-V2: Intelligent quality control and fault diagnosis system for large-scale proteomics LC-MS platform**
 Zhiwei Liu 刘志伟 Westlake University
- 14:50-15:00 ● **PTM-aware *de novo* peptide sequencing with OmniNovo**
 Yuhan Chen 陈雨晗 Shanghai Artificial Intelligence Laboratory
- 15:00-15:10 ● **A Unified Pre-trained Model Pushes the Limits of Mass Spectra Interpretation**
 Jiale Zhao 赵家乐 Institute of Computing Technology, Chinese Academy of Sciences
- 15:10-15:20 ● **New Orbitrap tribridp platform: IR Laser and DMT Technologies Enhance Performance for Protein Structural Characterization**
 Ming Huang 黄敏 Thermo

- 15:20-15:40 ● AIPC Introduction and Contestant Showcase
- 15:40-16:00 ● Summary Discussion
- 16:00-16:15 ● Prompts for AI in proteomics studies
- 16:15-16:45 ● 1st AIPC summary paper
- 16:45-17:15 ● 2nd AIPC planning paper
- 17:15-17:45 ● iDIA-QC paper

Entrance Guide 入校指引

Workshop Location: 2nd Floor, Room 201, Academic Ring E10, Gate #2 entrance, Westlake University (Yungu Campus)

Workshop地点：西湖大学云谷校区2号门入校 学术环E10 2楼 201会议室

Symposium Location: 2nd Floor, Room 231, E13, Gate #2 entrance, Westlake University (Yungu Campus)

研讨会地点：西湖大学云谷校区2号门入校 E13 2楼 231会议室



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Westlake AIVC Week

