

Scientific Program

August 2nd (Friday)

Registration

Time	Venue	Schedule
08:30-18:00	Lobby of Society Hill International Conference Centre Hotel	Registration

Forum for BSC Journals

Time	Venue	Schedule
13:30-15:30	Grand Congress Room 1	Forum for BSC Journals

科普讲座

Time	Venue	Schedule
14:00-15:40	Grand Congress Room 2	科普讲座

Opening Ceremony

Time	Venue	Schedule
16:30-17:00	Grand Congress Room 5, 6	Opening Ceremony

Plenary Lecture

Venue: Grand Congress Room 5, 6

Time	Speaker	Title /Affiliation	Page
17:00-17:45	Hongyang Wang	Progress in Diagnosis & Treatment of Liver Cancer (<i>National Center for Liver Cancer, China</i>)	28
17:45-18:30	Anna Marie Pyle	Structure and function of the innate immune receptor RIG-I: Strategies for signaling and for viral RNA specificity. (<i>Howard Hughes Medical Institute, Yale University</i>)	29

Welcome Reception

Time	Venue	Schedule
18:00-20:00	Romano Restaurant	Welcome Reception

August 3rd (Saturday)

S1-1 结构与计算生物学 I

Time: August 3rd. 8:30-11:50

Venue: Grand Congress Room 1

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:50	Chairs: Ruiming Xu, Jooyoung Lee		
1	8:30-9:05	Jooyoung Lee	Exploring the Folding Mechanism of Small Proteins GB1 and LB1 (<i>Korea Institute for Advanced Study, Korea</i>)	30
2	9:05-9:30	Guohui Li	生物分子的结构与动力学及其功能机理的分子动力学模拟理论方法发展与应用研究 (<i>Dalian Institute of Chemical Physics, CAS, China</i>)	31
3	9:30-9:55	Xianyang Fang	3D Structural Visualization of the Long Non-coding Subgenomic Flavivirus RNAs in Solution (<i>Tsinghua University, China</i>)	32
4	9:55-10:20	Niu Huang	Developing a Novel Quantum Mechanics-machine Learning (QM/ML) Scoring Function for Molecular Docking (<i>National Institute of Biological Sciences, Beijing, China</i>)	33
10:20-10:30 Break				
5	10:30-10:55	Zhijie Liu	Structural Basis of Molecular Modulation of Human Cannabinoid Receptors (<i>ShanghaiTech University, China</i>)	34
6	10:55-11:20	Jian Zhang	Development of Drug Design Methods and Applications in First-in-class Drug Discovery (<i>Shanghai Jiao Tong University, China</i>)	35
7	11:20-11:35	Na Li	NFPS b119u2 Beamline for Small-angle X-RAY Scattering of Macromolecules in Solution (<i>National Facility for Protein Science in Shanghai, China</i>)	36
8	11:35-11:50	Chao Liu	Mechanical Loading Promotes the Expansion of Primitive Osteoprogenitors and Organizes Matrix and Vascular Morphology in Long Bone Defects (<i>New York University, USA</i>)	37

S11 Neurobiophysics – Cell & MoleculeTime: August 3rd. 8:30-11:50

Venue: Grand Congress Room 3

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:30	Chairs: Chen Zhang		
1	8:30-8:45	Zhuan Zhou	Differential Co-release of Two Neurotransmitters from a Vesicle Fusion Pore in Mammalian Adrenal Chromaffin Cells (<i>Peking University, China</i>)	38
2	8:50-9:05	Chengyu Li	Transient Delay-period Activity of Agranular Insular Cortex Controls Working Memory Maintenance in Learning Novel Tasks (<i>The Institute of Neuroscience, Shanghai Institutes for Biological Sciences, CAS, China</i>)	39
3	9:10-9:25	Xiaoqun Wang	Single-cell RNA-Seq Analysis reveals a Developmental Atlas of the Human Prefrontal Cortex (<i>Institute of Biophysics, CAS, China</i>)	40
4	9:30-9:45	Donggen Luo	Neural Mechanisms Underlying Efficient Sensation (<i>Peking University, China</i>)	41
5	9:50-10:05	Xiangyao Li	Deficit of Apoptosis Related Protein 3 Causes Learning Disability and Peripheral Hypersensitivity on Mice (<i>Zhejiang University, China</i>)	42
10:10-10:30 Break				
6	10:30-10:45	Wei Xiong	A Non-mechanotransduction Role of TMC1 in Mammalian Auditory Hair Cells (<i>Tsinghua University, China</i>)	43
7	10:50-11:05	Fei Yang	The Role of Neuronal Itaconate in Cell Death (<i>Capital Medical University, China</i>)	44
8	11:10-11:25	Yongjing Gao	TLR8 and its Endogenous Ligand miR-21 Contribute to Neuropathic Pain in Murine DRG (<i>Nantong University, China</i>)	45
9	11:30-11:45	Mengping Wei	ABHD6 Negatively Regulates the Trafficking and Function of AMPA Receptors (<i>Peking University, China</i>)	46
10	11:45-11:55	Ran Zhang	蔡司超高分辨解决方案助力于神经生物应用领域 (<i>ZEISS</i>)	

S16 Advances in Clinical Rare Metabolic DiseaseTime: August 3rd. 8:30-12:00

Venue: Grand Congress Room 7

No	Time	Speaker	Title / Affiliation	Page
	8:30-12:00	Chairs: Hongwen Zhou		
1	8:30-9:00	Jinkui Yang	如何发现新的单基因糖尿病综合征 (<i>Beijing Diabetes Institute, China</i>)	47
2	9:05-9:30	Miao Yu	糖尿病精准分型的已知与未知 (<i>Peking Union Medical College Hospital, China</i>)	48
3	9:35-10:00	Qiang Li	认识自身免疫性多发性内分泌腺病综合征(<i>Shenzhen University General Hospital, China</i>)	49
4	10:05-10:30	Ming Liu	胰岛素基因突变与糖尿病 (<i>Tianjin Medical University General Hospital, China</i>)	50
5	10:35-11:00	Tianshu Zeng	千人千面的低磷血症 (<i>Wuhan Union Hospital, China</i>)	51
6	11:05-11:30	Xuqin Zheng	不一样的家族性高血压 (<i>The First Affiliated Hospital with Nanjing Medical University, China</i>)	52

S17 Frontiers in Lipidomics and Lipid Metabolism (脂质组学与脂代谢研究前沿)Time: August 3rd. 8:30-11:30

Venue: Grand Congress Room 8

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:30	Chairs: Huiyong Yin, Guanghou Shui		
1	8:30-9:00	Xianlin Han	Shotgun Lipidomics Sheds Light on Diabetic Neuropathy (<i>University of Texas Health Science Center at San Antonio, USA</i>)	53
2	9:00-9:25	Huiyong Yin	Lipidomic Insights into Fatty Acid Oxidation in Cardiovascular Diseases (<i>The Shanghai Institute of Nutrition and Health (SINH), Chinese Academy of Sciences, Shanghai, China</i>)	54
3	9:25-9:50	Guanghou Shui	Comprehensive Lipidomics Analysis Uncovered Diverse Roles of Lipidome Evolution (<i>Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing, China</i>)	55
9:50-10:00 Break				
4	10:00-10:25	Changtao Jiang	肠道菌-神经酰胺轴介导肠-肝对话 (<i>Peking University, Beijing, China</i>)	56
5	10:25-10:50	Zhengjiang Zhu	Ion Mobility-Mass Spectrometry based Lipidomics for Lipid Separation and Identification (<i>Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai, China</i>)	57

6	10:50-11:15	Hongfeng Jiang	心脏毒性脂质的基础与临床研究 (Beijing Anzhen Hospital, Capital Medical University, Beijing, China)	58
7	11:15-11:30	He Huang	Fluxomics – Tracing the fate of ¹³ C/ ¹⁵ N Stable Isotopes (Fudan University, Shanghai, China)	59

S19 表型组学的研究前沿和发展趋势Time: August 3rd. 8:30-11:50

Venue: Meeting Room 31

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:30	Chairs: Tangchun Wu, Chen Ding		
1	8:30-9:00	Tangchun Wu	Air Pollution and Cardiopulmonary Disease (Huazhong University of Science and Technology, China)	60
2	9:00-9:30	Huijun Yuan	Overview of CDGC Cohort Study - Clinical sequencing of 20,217 Cases with Hearing Loss across Mainland of China (The First Hospital Affiliated to AMU, China)	61
3	9:30-10:00	Yanfeng Ding	Plant Phenomics: History, Present Status and Challenges (Nanjing Agricultural University, China)	62
4	10:00-10:30	Mei Tian	From Molecular Imaging to Phenomic Imaging (Zhejiang University, China)	63
5	10:30-11:00	Daowen Wang	中国家族性心肌病的临床表型组研究 (Tongji Hospital, China)	64
6	11:00-11:30	Jing Wang	生物表型标准思考 (National Institute of Metrology, China)	65
7	11:30-12:00	Discussion		

S20-1 纳米酶论坛Time: August 3rd. 8:30-11:30

Venue: Grand Congress Room 5, 6

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:30	Chairs: Xiaogang Qu, Zhengqiang Li, Daiwen Pang		
	8:30-9:10		纳米酶分会成立仪式	
1	9:10-9:40	Xiyun Yan	Nanozymes: the Past, Present and Future (Institute of Biophysics, CAS, China)	66
2	9:40-10:10	Shaojun Dong	Single-atom Nanozymes (Changchun Institute of Applied Chemistry, CAS, China)	67
10:10-10:30 Break				
3	10:30-10:50	Xiaogang Qu	新型人工酶-纳米酶在生物医学应用中的新进展 (Changchun Institute of Applied Chemistry, CAS, China)	68

4	10:50-11:10	Junqiu Liu	蛋白质组装：仿酶新平台 (Jilin University, China)	69
5	11:10-11:30	Aiguo Wu	TBA (Ningbo Institute of Materials Technology and Engineering, CAS, China)	70

JS2 Joint Session with Association of Chinese Americans in Cancer Research (ACACR) - Cancer Stemness

Time: August 3rd. 8:30-11:50

Venue: Meeting Room 29

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:30	Chairs: Huiping Liu, Jiyang Zhang		
1	8:30-8:50	Huiping Liu	CD44+ Breast Cancer Stem Cells Mediate Circulating Tumor Cluster Formation and Drive Polyclonal Metastasis (Northwestern University, Chicago, USA)	71
2	8:55-9:15	Jiyang Zhang	RACK1 Promotes Self-renewal and Chemoresistance of Liver Cancer Stem Cells (Institute of Basic Medical Sciences, Beijing, China)	72
3	9:20-9:40	Jindan Yu	Lineage Plasticity of Prostate Cancer. (Northwestern University, Chicago, USA)	73
4	9:45-10:05	Lei Wang	Interplay between Endoplasmic Reticulum Oxidoreductin-1 α and Protein Disulfide Isomerase Suppresses the Progression of Cervical Cancer (Institute of Biophysics, CAS, Beijing, China)	74
10:10-10:20 Break				
5	10:20-10:40	Yongguang Tao	Cross-talk Between Methylation and Phosphorylation of LSH and Cancer Stemness (Central South University, Changsha, China)	75
6	10:45-11:05	Jianjun Zhao	BCL9, a Wnt/ β -Catenin Transcriptional Co-activator, Promotes Spontaneous Development of B-cell Malignancies (Cleveland Clinic Foundation, Cleveland, USA)	76
7	11:10-11:35	Qiang Liu	Circulating Tumor DNA Predicts the Response and Prognosis in Early Breast Cancer Patients Receiving Neoadjuvant Chemotherapy (Sun Yat-Sen University, Guangzhou, China)	77

Lunch

Time	Venue	Schedule
12:00-13:00	3 rd floor of public area	Lunch

Plenary Lecture

Venue: Grand Congress Room 5, 6

No	Time	Speaker	Title / Affiliation	Page
1	13:00-13:45	Weizhi Ji	生命科学研究中的非人灵长类：优势与挑战 (<i>Kunming University of Science and Technology, China</i>)	78
2	13:45-14:30	Hailan Hu	情绪和社会行为的神经基础 (<i>Zhejiang University, China</i>)	79
3	14:30-15:15	Li Jin	从基因组到表型组 (<i>Fudan University, China</i>)	80

Coffee Break

Time	Schedule
15:15-15:30	Coffee Break

Women Scientist Forum

Time	Venue	Schedule
15:30-17:00	Grand Congress Room 3	Women Scientist Forum

Poster Session

Time	Venue	Schedule
15:30-17:00	Grand Congress Room 2	Poster Session

Company Symposium

Time	Venue	Schedule
13:00-18:00	Meeting Room 30	Company Symposium

BSC Council Meeting

Time	Venue	Schedule
19:00-21:00	Meeting Room 29	Council Meeting

August 4th (Sunday)

Session Program

S1-2 结构与计算生物学II

Time: August 4th. 8:30-11:55

Venue: Grand Congress Room 1

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:55	Chairs: Yihua Huang, Na Yang		
1	8:30-8:55	Ning Gao	Cryo-EM Structure and Assembly of an Extracellular Contractile Injection System (<i>Peking University, China</i>)	81
2	8:55-9:20	Xinzheng Zhang	High-quality, High-throughput Cryo-electron Microscopy Data Collection via Beam Tilt and Astigmatism-free Beam-image Shift (<i>Institute of Biophysics, CAS, China</i>)	82
3	9:20-9:45	Ping Yin	Pentatricopeptide Repeat Proteins: Coding for base; Decoding for us (<i>Huazhong Agricultural University, China</i>)	83
4	9:45-10:10	Chao Xu	Molecular Basis of Vasohibins-mediated Detyrosination and Its impact on Spindle Function and Mitosis (<i>University of Science and Technology of China, China</i>)	84
10:10-10:20 Break				
5	10:20-10:45	Yanxiang Zhao	Targeting the Beclin1 Coiled Coil Domain for Autophagy Regulation: Molecular Mechanism and Design of Novel Modulators (<i>Hong Kong Polytechnic University, China</i>)	85
6	10:45-11:10	Yongqun Zhu	A Bacterial Effector Deubiquitinase Specifically Hydrolyses Linear Ubiquitin Chains to Inhibit Host Inflammatory Signalling (<i>Zhejiang University, China</i>)	86
7	11:10-11:25	Sheng Ye	Crystal Structure of Arpin Reveals the Important Role of Its Homodimerization in Arp2/3 Complex Inhibition (<i>Institute of Biophysics, CAS, China</i>)	87
8	11:25-11:40	Qisheng Wang	A Level-2 Biosafety Beamline for Macromolecular Crystallography at SSRF (<i>Shanghai Institute of Applied Physics, China</i>)	88
9	11:40-11:55	Shangxiang Ye	Dynamic Structure of PINK1 Self-activation and Recognition of Substrate (<i>Huazhong University of Science and Technology, China</i>)	89

S2-1 膜融合与裂解/Membrane fusion and fissionTime: August 4th 8:30-11:50

Venue: Grand Congress Room 8

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:35	Chairs: Junjie Hu, Elizabeth Chen		
1	8:30-9:05	Oliver Daumke	Structure and Assembly of the Mitochondrial Membrane Remodelling GTPase Mgm1 (<i>Max-Delbrück-Centrum for Molecular Medicine, Germany</i>)	90
2	9:05-9:40	Junjie Hu	The Machinery of Mitochondrial Fusion (<i>Institute of Biophysics, CAS, China</i>)	91
9:40-10:10 Break				
3	10:10-10:45	Elizabeth Chen	Dynamin Captures and Bundles Actin Filaments to Drive Invasive Protrusions in Cell-cell Fusion (<i>UT Southwestern Medical Center, US</i>)	92
4	10:45-11:20	Cong Ma	Mechanism of Munc13s in SNARE Complex Assembly and Membrane Fusion (<i>Huazhong University of Science and Technology, China</i>)	93
5	11:20-11:35	Haijia Yu	Functional Studies of Sec1/Munc18 Proteins in Membrane Fusion (<i>Nanjing Normal University, China</i>)	94

S5-1 衰老的分子机制/Molecular mechanisms of agingTime: August 4th 8:30-11:30

Venue: Grand Congress Room 2

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:30	Chairs: Jun-Ping Liu, Chang Chen		
1	8:30-8:50	Chang Chen	Reductive Stress of Endoplasmic Reticulum on Aging (<i>Institute of Biophysics, CAS, China</i>)	95
2	8:50-9:10	Chao Tong	Mitochondria and Neurodegeneration (<i>Zhejiang University, China</i>)	96
3	9:10-9:30	Junfeng Ji	Identification of CLDN1 as a Novel Surface Biomarker for Targeted Elimination of Senescent Cells. (<i>Zhejiang University, China</i>)	97
4	9:30-9:50	Hu Wang	Epigenetic Regulation in Stem Cell Maintenance and Aging (<i>Jinan University, China</i>)	98
9:50-10:10 Break				
5	10:10-10:30	Shiqing Cai	Neural Basis of Age-related Behavioral Deterioration (<i>The Institute of Neuroscience, Shanghai Institutes for Biological Sciences, CAS, China</i>)	99
6	10:30-10:50	Wei Xiong	The Neurochemical Research of Brain Aging (<i>University of Science and Technology of China, China</i>)	100

7	10:50-11:10	Jie Zhang	Age-related Hyperinsulinemia Leads to Insulin Resistance in Neurons and Cell Cycle-induced Senescence (Xiamen University, China)	101
8	11:10-11:20	Yijing Wang	从生物体到单分子，显微技术推进科学发现 (Leica Microsystems, China)	

S6: 听觉言语交流/Hearing, Speech and Communication

Time: August 4th 8:30-11:40

Venue: Grand Congress Room 7

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:40	Chairs: Guangjian Ni, Wei Xiong		
1	8:30-9:00	Shixiong Chen	Swept-tone Technologies for Fast and High-resolution Hearing Loss Screening (Shenzhen Institutes of Advanced Technology, CAS, Shenzhen, China)	102
2	9:00-9:30	Yongyi Yuan	Research on Identification and Pathogenesis of New Gene That Causes Hereditary Deafness (Chinese PLA General Hospital, Beijing, China)	103
3	9:30-10:00	Lei Song	Hearing Consequences in Gjb2 Knock-in Mice: Implications for Human p.V37I Mutation (Shanghai 9th people's Hospital, Shanghai, China)	104
10:00-10:10 Break				
4	10:10-10:40	Guangjian Ni	Effect of Cochlear Implant Round Window Insertion Position on Residual Hearing (Tianjin University, Tianjin, China)	105
5	10:40-11:10	Jinqiu Sang	Measurement of Bone to Air Differential Transfer Function Based on Bone to Air Cancellation (Institute of Acoustics, CAS, Beijing, China)	106
6	11:10-11:40	Wenzhi Sun	Ramping Activity in Midbrain Dopaminergic Neurons Encodes the Delayed Gratification (The Chinese Institute for Brain Research, Beijing, China)	107

S8 临床分子诊断/Clinical Molecular Diagnosis

Time: August 4th 8:30-11:50

Venue: Meeting Room 31

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:50	Chairs: Zhenglin Yang, Li Ren		
1	8:30-9:00	Zhenglin Yang	视网膜色素变性的分子诊断 (Sichuan Academy of Medical Sciences & Sichuan Provincial People's Hospital, China)	108
2	9:00-9:30	Ming Guan	基于CD芯片LAMP法即时检测CALR-1/2 突变(Huashan Hospital, Fudan University, China)	109

3	9:30-10:00	Dong Li	新型肺癌分子标志物的研究新进展 (Tongji Hospital of Tongji University, China)	110
10:00-10:10 Break				
4	10:10-10:40	Li Ren	肿瘤分子标记物的个体化应用 (Tianjin Medical University Cancer Institute & Hospital, China)	111
5	10:40-11:10	Shuye Liu	Application of Metabolomics Based on Biomass Spectrometry in Clinical Medicine (Tianjin Third Central Hospital, China)	112
6	11:10-11:40	Yahui Lin	蛋白颗粒及亚组份检测的新方法 (National Center of Cardiovascular Diseases, Fuwai Hospital CAMS, China)	113
7	11:40-11:50	<u>Qiong Liu</u>	The Peripheral Fluid Biomarkers for Assessment of Alzheimer's Disease (Peking University Shenzhen Hospital, China)	114

S20-2 纳米酶论坛Time: August 4th 8:30-11:30

Venue: Grand Congress Room 5, 6

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:30	Chairs: Lianbing Zhang, Xingfa Gao		
1	8:30-8:50	Lizeng Gao	Virus Inactivation Using Iron Oxide Nanozymes (Yangzhou University/Institute of Biophysics, CAS, China)	115
2	8:50-9:10	Wei Chen	Analytical Applications of Cupric Oxide Nanoparticles as Enzyme Mimetics (Fujian Medical University, China)	116
3	9:10-9:30	Wei Ma	纳米酶本征催化活性研究 (East China University of Science and Technology, China)	117
4	9:30-9:50	Xingfa Gao	Catalytic Model Bridging Computations and Experiments for Ceria-Based Nanozymes (Jiangxi Normal University, China)	118
5	9:50-10:10	Xiaodong Zhang	Catalytic Nnozymes for Central Nervous System Disease (Tianjin University, China)	119
10:10-10:30 Break				
6	10:30-10:50	Rongqiao Hao	浅谈IONzyme纳米酶与天然酶的性质 (Institute of Biophysics, CAS, China)	120
7	10:50-11:10	Huaping Xu	TBA (Tsinghua University, China)	121
8	11:10-11:30	Cuicui Ge	Tuning the Activity of Noble-metal Based Nanozymes for Their Biological Applications (Soochow University, China)	122

JS1 China-Australia Joint Biophysics sessionTime: August 4th. 8:30-11:30

Venue: Meeting Room 29

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:10	Chairs: Matt Baker, Jack Wei Chen		
1	8:30-8:50	Chai-Ann Ng	High-throughput Phenotyping of Heteromeric hERG Channel Variants Can Discriminate Pathogenic from Rare Benign Variants (<i>Victor Chang Cardiac Research Institute, Sydney, Australia</i>)	123
2	8:55-9:15	Zhiqiang Yan	Nanchung and Inactive are Pore-forming Subunits of the Native Auditory Transduction Channel in <i>Drosophila</i> (<i>Fudan University, China</i>)	124
3	9:20-9:40	Matt Baker	Directing the Assembly and Evolution of the Bacterial Flagellar Motor (<i>University of New South Wales, Sydney, Australia</i>)	125
4	9:45-10:05	Fan Bai	Single-cell Imaging Study of Bacterial Antibiotic Tolerance (<i>Peking University, China</i>)	126
10:10-10:20 Break				
5	10:20-10:40	Lining Arnold Ju	Novel Single Cell Mechanobiology Approach Reveals an Intermediate State of Integrin α IIb β 3 That Mediates Platelet Aggregation under Disturbed Flow (<i>Charles Perkins Centre, University of Sydney, Australia</i>)	127
6	10:45-11:05	Jack Wei Chen	Mechano-chemical Coupling Regulates TCR Antigen Recognition (<i>Zhejiang University, China</i>)	128
7	11:10-11:30	Boris Martinac	Ion Channel Mediated Mechanosensory Transduction at the Membrane Interface (<i>Victor Chang Cardiac Research Institute Darlinghurst, NSW 2010, Australia</i>)	129

JS3 China-Japan Joint Minisymposium on Single-Molecule BiophysicsTime: August 4th 8:30-12:00

Venue: Grand Congress Room 3

No	Time	Speaker	Title / Affiliation	Page
	8:30-12:00	Chairs: Yoshie Harada, Ming Li		
1	8:30-8:50	Rikiya Watanabe	Microsystems for Single Molecule Analysis of Membrane Proteins (<i>RIKEN, Japan</i>)	130
2	8:50-9:10	Jizhong Lou	Mechanical Regulation of PD1/PD-L1 Interaction and Its Implication to Immunotherapy (<i>IBP, CAS, China</i>)	131
3	9:10-9:30	Hiroko Bannai	Physiology and Pathology of Brains Revealed by Single Molecule Imaging (<i>Keio Univ. School of Medicine, Japan</i>)	132

4	9:30-9:40	Hao Yu	Energy Landscape Reconstruction for Membrane Protein Folding Based on High Resolution Force Spectroscopy (<i>HUST, China</i>)	133
5	9:40-9:50	Peng Zheng	Molecular Mechanism of Selective High Zinc-binding Affinity of Antimicrobial Protein Human S100A12 (<i>Nanjing University, China</i>)	134
6	9:50-10:00	Hui Li	Complex Dynamics of Living Matters (<i>Beijing Normal University, China</i>)	135
10:00-10:20 Break				
7	10:20-10:40	Yoshie Harada	Development of a New Fluorescence Imaging Technique Using Nitrogen Vacancy Centers in Diamond (<i>Osaka University, Japan</i>)	136
8	10:40-11:00	Shuo Huang	Designing a Nanopore Sensor for Dynamic Single Molecule Measurements: from a Single Ion to Biomacromolecules (<i>Nanjing University, China</i>)	137
9	11:00-11:20	Xuefeng Guo	Accurate Single-molecule Electrical Biodetection (<i>Peking University, China</i>)	138
10	11:20-11:30	Fazhan Shi	Single-DNA Electron Spin Resonance Spectroscopy in Aqueous Solutions (<i>USTC, China</i>)	139
11	11:30-11:40	Zhi Qi	Imaging High-concentration Interaction of p53 on DNA (<i>Peking University, China</i>)	140
12	11:40-11:50	Zhongbo Yu	DNA Methylation Differentially Regulates Site-specific Dissociation of Conserved Epigenetic Enzymes on a CGI landscape (<i>Nankai University, China</i>)	141
13	11:50-12:00	Xinghua Zhang	Opposite Effects of High-valent Cations on the Elasticities of DNA and RNA Duplexes Revealed by Magnetic Tweezers and Molecular Simulation (<i>Wuhan University, China</i>)	142

Lunch

Time	Venue	Schedule
12:00-13:00	3 rd floor of public area	Lunch

Plenary Lecture

Venue: Grand Congress Room 5, 6

No	Time	Speaker	Title / Affiliation	Page
1	13:00-13:45	Yifan Cheng	Single Particle Cryo-EM of Membrane Proteins (HHMI, University of California, San Francisco, USA)	143
2	13:45-14:30	Axel Brunger	Molecular Mechanisms of Neuronal Exocytosis (HHMI, Stanford University, USA)	144

Coffee Break

Time	Schedule
14:30-15:00	Coffee Break

S2-2 膜融合与裂解/Membrane fusion and fissionTime: August 4th 15:00-18:05

Venue: Grand Congress Room 8

No	Time	Speaker	Title / Affiliation	Page
	15:00-18:05	Chairs: Junjie Hu, Elizabeth Chen		
1	15:00-15:35	Jenny Hinshaw	Cryo-EM Structures of Membrane Bound Dynamin (NIDDK, NIH, USA)	145
2	15:35-16:10	Da Jia	New Insights into Mechanisms of Endosomal Sorting (Sichuan University, China)	146
3	16:10-16:20	Yongyu Xu	Subcellular Research Illuminated by PerkinElmer High-Content Screening Solution (PerkinElmer)	
16:10-16:40 Break				
4	16:40-17:15	Thomas Pucadyil	Mitochondrial Fission: Insights from Reconstitution of Mitochondrial Form and Chemistry (Indian Institute of Science Education and Research, Pune, India)	147
5	17:15-17:50	Shan Sun	Mechanistic Insights into the SNARE Complex Disassembly (Tsinghua University, China)	148
6	17:50-18:05	Jun Li	Mycobacterial Dynamin-like Protein IniA Mediates Membrane Fission (ShanghaiTech University, China)	149

S3 Metabolic stress and adaptationTime: August 4th 15:00-17:55

Venue: Grand Congress Room 3

No	Time	Speaker	Title / Affiliation	Page
	15:00-17:55	Chairs: Weiping Zhang, Yongsheng Chang		
1	15:00-15:25	Yong Xu	Disruption of Steroid Receptor Coactivator-1 Signaling is Associated with Obesity (Baylor College of Medicine, US)	150
2	15:25-15:50	Ling Qi	The Sel1L-Hrd1 Complex Manages Endoplasmic Reticulum-mitochondria Contacts and Mitochondrial Dynamics (University of Michigan, US)	151
3	15:50-16:15	Toyoshi Fujimoto	Lipid Droplets in the Hepatocyte Nucleus (Nagoya University, Japan)	152
4	16:15-16:40	Yihong Wan	Autonomous, Endocrine and Metabolic Regulation of Bone (UT Southwestern Medical Center, US)	153
5	16:40-17:05	Liqing Yu	Lipid Droplet Lipolysis and Metabolic Disease (University of Maryland School of Medicine, US)	154
6	17:05-17:30	Yan Qin	Stepwise Activation of Respiratory Chain Complexes by Unique Mitochondrial Ribosomes During Stem Cell Differentiation (Institute of Biophysics, CAS, China)	155
7	17:30-17:55	Xiaowei Chen	Lipid Metabolism Policed by the Traffic COP (Peking University, China)	156

S4 冷冻电镜 Cryo-EMTime: August 4th 15:00-18:00

Venue: Grand Congress Room 7

No	Time	Speaker	Title / Affiliation	Page
	15:00-18:00	Chairs: Gang Cai, Xinzheng Zhang		
1	15:00-15:20	Maojun Yang	Discovery the Composition of Mitochondrial Respiratory Chain (Tsinghua University, Beijing, China)	157
2	15:25-15:45	Quan Wang	An Electron Transfer Path Connects Subunits of a Mycobacterial Respiratory Supercomplex (Institute of Biophysics, CAS, Beijing, China)	158
3	15:50-16:10	Yonggui Gao	Ribosome Protection: a New Layer on Antimicrobial Resistance (Nanyang Technological University, Singapore)	159
4	16:15-16:25	Yonghua Chen	UEV 25 D 蛋白纯化仪 (Union-Biotech Shanghai Company)	
16:30-16:40 Break				

5	16:40-17:00	Xueming Li	Making MicroED an Efficient Tool for Ultrahigh-Resolution Structural Determination (Tsinghua University, Beijing, China)	160
6	17:05-17:25	Pengfei Lan	Structural Insight into Precursor tRNA Processing by Ribonuclease P (Shanghai Jiao Tong University School of Medicine, Shanghai, China)	161
7	17:30-17:45	Danyang Zhang	Researches on the Mechanism of Short Form OPA1 Induced Mitochondrial Inner Membrane Remodeling (Institute of Biophysics, CAS, Beijing, China)	162
8	17:50-18:00	Qing Wang	New Cryo-EM Solutions for Life Sciences (ThermoFisher)	

S9 体育医学下生命科学研究的发展

Time: August 4th. 15:00-18:00

Venue: Grand Congress Room 2

No	Time	Speaker	Title / Affiliation	Page
	15:00-18:00	Chairs: Jianjun Guo, Xi Wang		
1	15:00-15:10	Jianjun Guo	体育医学分会发展现状和未来 (General Administration of Sport of China, China)	163
2	15:10-15:50	Jianjun Guo	体育医学发展的必要性与发展路径 (General Administration of Sport of China, China)	164
3	15:50-16:10	Jing Li	低氧训练与健康 (Beijing Hospital, China)	165
4	16:10-16:30	Zhichao Wang	脑血管病与运动健康 (Peking University Third Hospital, China)	166
5	16:30-16:50	Zhigang Zhao	运动与药物-运动药理学的发展 (Beijing Tiantan Hospital, China)	167
16:50-17:00 Break				
6	17:00-17:20	Lishun Wang	体育与免疫的相互作用及其对机体健康的影响 (Fudan University Zhongshan Hospital, China)	168
7	17:20-17:40	Guixiong Gu	运动是生长发育的动力 (Suzhou University, China)	169
8	17:40-18:00	Xing Yuan	健康太极的传统与未来 (Tao Art Tai Ji Chinese Study Academy, China)	170

S10 Biological Magnetic Resonance SessionTime: August 4th. 15:00-18:00

Venue: Grand Congress Room 1

No	Time	Speaker	Title / Affiliation	Page
	15:00-18:00	Chairs: Chun Tang, Ke Ruan		
1	15:00-15:20	Cheng Luo	Targeting the Untargetable: Biomimetic Chemical Intervention Based on PTMs (<i>Shanghai Institute of Materia Medica, CAS, China</i>)	171
2	15:20-15:40	Ke Ruan	Conformational Selection in Ligand Recognition by PHF20L1 Tudor Domain (<i>University of Science and Technology of China, China</i>)	172
3	15:40-16:00	Xin Zhang	Low Frequency Rotating Magnetic Fields Affect F-actin and ROS to Inhibit Breast Cancer Metastasis (<i>High Magnetic Field Laboratory of CAS, China</i>)	173
4	16:00-16:20	Xuncheng Su	In-cell Analysis of Noncovalent Bonded Dimeric Protein Complex Using NMR and EPR (<i>Nankai University, China</i>)	174
5	16:20-16:40	Bo Ouyang	Structural Characterization of Active Bax at the Membrane (<i>Shanghai Institute of Biochemistry and Cell Biology, CAS, China</i>)	175
6	16:40-17:00	Shenlin Wang	Progress of the Structural Characterization on a Eukaryotic Rhodopsin by Solid-state NMR (<i>Peking University, China</i>)	176
7	17:00-17:20	Donghai Lin	Structural Basis for the Complete Resistance of the Human Prion Protein Mutant G127V to Prion Disease (<i>Xiamen University, China</i>)	177
8	17:20-17:40	Chengdong Huang	Structural Basis of Chaperoning Intrinsically Disordered Client Proteins by Hsp90 (<i>University of Science and Technology of China, China</i>)	178
9	17:40-18:00	Xu Dong	Ubiquitin is Doubly Phosphorylated by PINK1 for Enhanced PH-sensitivity of a Conformational Switch (<i>Wuhan Institute of Physics and Mathematics, CAS, China</i>)	179

S14 PhotobiophysicsTime: August 4th. 15:00-18:15

Venue: Meeting Room 29

No	Time	Speaker	Title / Affiliation	Page
	15:00-18:15	Chairs: Yuhui Dong, Chunhong Yang		
1	15:00-15:20	Zhengwei Pan	Persistent Luminescent Materials Emitting in the Invisible Spectral Regions: Infrared & Ultraviolet (<i>King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia</i>)	180
2	15:25-15:45	Yuhui Dong	High Energy Photon Source (HEPS): A High-performance Light Source for Biological Sciences (<i>Institute of High Energy Physics, Chinese Academy of Sciences, Beijing, China</i>)	181

3	15:50-16:10	Haifeng Ye	Synthetic Far-Red Light-Controlled Optogenetic Devices for Biomedical Applications (<i>Beijing Normal University, Beijing, China</i>)	182
4	16:15-16:35	Lijin Tian	Non-photochemical Quenching in Green Algae (<i>Institute of Botany, Chinese Academy of Sciences, Beijing, China</i>)	183
16:40-16:50 Break				
5	16:55-17:15	Xueyun Gao	The Precise Diagnosis of Cancer Invasion/Metastasis via 2D Laser Ablation Mass Mapping of Metalloproteinase in Primary Cancer Tissue (<i>Beijing University of Technology, Beijing, China</i>)	184
6	17:20-17:40	Deliang Chen	Unique Photocycle Kinetics and Ionic Selectivity of Light-driven Sodium Pump NdR2 (<i>University of Chinese Academy of Sciences, Beijing, China</i>)	185
7	17:45-17:55	Huabin Wang	Terahertz Imaging of Biological Samples from the Millimeter, Micrometer and Nanometer Scales (<i>Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Chongqing, China</i>)	186
8	18:00-18:15	Chen Li	Clarify the Reaction Dynamics of Bovine Cytochrome C Oxidase by Time-resolved IR Spectroscopy (<i>Key Laboratory of Zoonosis, Ministry of Education, Institute of Zoonosis/College of Veterinary Medicine, Jilin University, China</i>)	187

S15 生物微量元素前沿进展/Frontiers of Bio-Trace Elements

Time: August 4th. 15:00-18:00

Venue: Meeting Room 31

No	Time	Speaker	Title / Affiliation	Page
	15:00-18:00	Chairs: Fudi Wang, Zhengfan Jiang		
1	15:00-15:20	Xiyun Yan	铁蛋白：新功能的发现及其在肿瘤诊疗中的应用 (<i>Institute of Biophysics, CAS, China</i>)	188
2	15:20-15:40	Fudi Wang	Unraveling Mineral Regulatory Networks in Human Diseases (<i>Zhejiang University, China</i>)	189
3	15:40-16:00	Zhengfan Jiang	The Immunological Function of Manganese and Its Possible Applications (<i>Peking University, Beijing, China</i>)	190
4	16:00-16:20	Xing Chang	Iron Drives T Helper Cells Pathogenicity by Promoting RNA-binding Protein PCBP1-mediated Proinflammatory Cytokine Production (<i>Xihu University, China</i>)	191
16:20-16:30 Break				
5	16:30-16:50	Xiang Gao	TBA (<i>Nanjing University, China</i>)	192

6	16:50-17:10	Peng Lei	ACSL4 Mediates Ferroptotic Neuronal Death after Ischemia/Reperfusion (<i>Sichuan University, Sichuan, China</i>)	193
7	17:10-17:30	Tianfeng Chen	Selenium Medicinal Chemistry and Cancer Immunotherapy (<i>Jinan University, Guangzhou, China</i>)	194
8	17:30-17:50	Xihui Shen	Roles of Type VI Secretion System in Importing Metal Ions (<i>Northwest A&F University, Shanxi, China</i>)	195

Career Development Lecture

Time	Venue	Schedule
18:30-20:30	Grand Congress Room 3	Career Development Lecture

August 5th (Monday)

Session Program

S5-2 衰老的分子机制/Molecular mechanisms of aging

Time: August 5th. 8:30-11:30

Venue: Grand Congress Room 2

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:30	Chairs: Jun-Ping Liu, Chang Chen		
1	8:30-8:50	Zhongjun Zhou	SIRT6 in DNA Damage and Aging (<i>The University of Hong Kong</i>)	196
2	8:50-9:10	Baohua Liu	Sirt7 Regulates Hepatic Circadian Phase Coherence and Gluconeogenesis (<i>Shenzhen University, China</i>)	197
3	9:10-9:30	Zimei Wang	Functional Role for Nuclear Lamina in Modulating Protein Kinase Activity and Premature Aging (<i>Shenzhen University, China</i>)	198
4	9:30-9:50	Houzao Chen	TBA (<i>Basic Medical College, Chinese Academy of Medical Sciences, China</i>)	199
9:50-10:10 Break				
5	10:10-10:30	Weiqi Zhang	A Single-Cell Transcriptomic Atlas of Arterial Aging in Cynomolgus Monkey (<i>Beijing Institute of Genomics, CAS, China</i>)	200
6	10:30-10:50	Tangliang Li	RNA质量控制与哺乳动物组织稳态维持 (<i>Hangzhou Normal University, China</i>)	201
7	10:50-11:10	Feng Wang	Lap 2 Alpha Plays an Essential Role in Telomere DNA Replication and Recombination (<i>Tianjin Medical University, China</i>)	202

S7 纳米生物物理学交叉进展及其在生物医学的应用Time: August 5th. 8:30-12:05

Venue: Grand Congress Room 3

No	Time	Speaker	Title / Affiliation	Page
	8:30-12:05	Chairs: Xueyun Gao, Bingyang Shi		
1	8:30-9:05	Guoping Chen	Influence of Cell Morphology on Cell Nanomechanics and Gene Transfection Efficiency (National Institute for Materials Science, Tsukuba, Japan)	203
2	9:05-9:30	Chun-Xia Zhao	Role of Nanoparticle Mechanical Properties in Cancer Drug Delivery (The University of Queensland, St Lucia, QLD, Australia,)	204
3	9:30-9:55	Bingyang Shi	Nanoparticles Based Strategy for Blood-Brain Barrier Crossing and Brain Disease Theranostics (Henan University, Kaifeng, China)	205
4	9:55-10:10	Xue Xue	纳米材料自身活性在神经精神类疾病中的应用 (Nankai University, Tianjin, China)	206
10:10 – 10: 20 Break				
5	10:20-10:55	Yaping Li	Enhanced Antitumor Activity of ICB Immunotherapy with in Situ Nanovaccines (Shanghai Institute of Materia Medica, CAS, Shanghai, China)	207
6	10:55-11:20	Jinjun Shi	RNA Nanomedicine for Targeting Genetic Mutations in Cancer (Harvard Medical School, USA)	208
7	11:20-11:45	Yuanyu Huang	核酸(siRNA)药物递送与疾病治疗 (Nucleic Acid (siRNA) Delivery and Therapeutic Development) (Beijing Institute of Technology, Beijing, China)	209
8	11:45-12:00	Kelong Fan	Nanozyme Based Tumor Catalytic Theranostics (Institute of Biophysics, CAS, Beijing, China.)	210

S12 Neurobiophysics – Circuit & SystemTime: August 5th. 8:30-11:40

Venue: Meeting Room 29

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:40	Chairs: Tian Xue, Xiaowei Chen		
1	8:30-9:00	Yulong Li	Spying on Neuromodulation by Constructing New Genetically Encoded Sensors (Peking University, Beijing, China)	211
2	9:00-9:30	Xiaohong Xu	Hypothalamic Control of Innate Social Behaviors (Institute of Neuroscience, Shanghai, China)	212

3	9:30-10:00	Yelin Chen	An N-methyl-D-aspartate Receptor Subtype Plays a Critical Role in Depression and Related Diseases. (<i>Interdisciplinary Research Center on Biology and Chemistry, CAS, Shanghai, China</i>)	213
10:00-10:10 Break				
4	10:10-10:40	Haohong Li	A Central Amygdala-Basal Forebrain-Lateral Habenula Circuitry and Aversive Signal (<i>Huazhong University of Science and Technology, Wuhan, China</i>)	214
5	10:40-11:10	Aihui Tang	LRRTM2 Organizes Trans-synaptic Nanocolumn and Tunes Synaptic Transmission (<i>University of Science and Technology of China, Hefei, China</i>)	215
6	11:10-11:40	Xiaowei Chen	Two-photon Ca ²⁺ Imaging of Auditory Cortex Circuits During Associative Learning (<i>Army Medical University, Chongqing, China</i>)	216

S13 Frontiers and Application of Omics Technologies

Time: August 5th. 8:30-11:30

Venue: Grand Congress Room 1

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:30	Chairs: Taijiao Jiang, Xiaochen Bo		
1	8:30-8:50	Bairong Shen	TBA (<i>West China Hospital, Sichuan University, Chengdu, China</i>)	217
2	8:50-9:10	Anyuan Guo	Bioinformatics Resources for Transcription Regulation and Cancer Genomics (<i>Huazhong University of Science and Technology, Wuhan 430074, China</i>)	218
3	9:10-9:30	Qi Liu	基于组学数据分析的肿瘤新生抗原预测挖掘研究 (<i>Tongji University, Shanghai, China</i>)	219
4	9:30-9:50	Xiaoyue Wang	Multiplex Assessment of Sequence Variants by Functional Genomics Approaches (<i>Institute of Basic Medical Sciences, Chinese Academy of Medical Sciences, Peking Union Medical College, Beijing, China</i>)	220
	9:50-10:00	Xinpin Zhuang	生物体内组织微环境——大数据原位空间定量分析技术 (<i>HuaweiZhongyi</i>)	
10:00-10:10 Break				
5	10:10-10:30	Xiujie Wang	m6A RNA Modification: Mechanism, Function and Social Implications (<i>Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing, China</i>)	221

6	10:30-10:50	Dong Li	Knowledge Mining from Large Scale Protein-protein Interaction Datasets at the Era of Big Data (Beijing Proteome Research Center, Beijing Institute of Radiation Medicine, Beijing, China)	222
7	10:50-11:10	Jianxin Wang	基于人工智能的生物医学组学大数据处理初探 (Central South University, Changsha, China)	223
8	11:10-11:30	Fangqing Zhao	Computational Methods in Exploring Circular RNAs (Beijing Institutes of Life Science, Chinese Academy of Sciences, Beijing, China)	224

S18 运动与健康/Sport and Health

Time: August 5th. 8:30-11:40

Venue: Grand Congress Room 8

No	Time	Speaker	Title / Affiliation	Page
	8:30-11:40	Chairs: Ru Wang, Xindong Ma		
1	8:30-9:00	Yihua Bei	Novel Regulatory Mechanisms of Exercise-induced Cardioprotection (Shanghai University, Shanghai, China)	225
2	9:00-9:30	Xue Li	Effects of Aerobic Exercise on Spatial Learning/Memory, Synaptic Plasticity and CREB Methylation in Aging Rat Hippocampus (Chengdu Sport University, Chengdu, China)	226
3	9:30-10:00	Guijun Dong	Kick-boxing Exercise Alters Brain Effective Connectivity in Female with Methamphetamine Dependencies: A Functional Near-infrared Spectroscopy Study (Shandong Sport University, Jinan, China,)	227
Break 10:00-10:10				
4	10:10-10:40	Yiping Liu	The Role of SIRT1 in Vascular Inflammation Regulated by Aerobic Exercise in Diabetic Rats (Fujian Normal University, Fuzhou, China)	228
5	10:40-11:10	Weihua Xiao	骨骼肌再生过程中巨噬细胞的作用及其外源性干预 (Shanghai University of Sport, China)	229
6	11:10-11:40	YanFeng Zhang	Investigation & Research on Scientific Fitness Accomplishment of Children and Adolescents in China (Sports Science Research Institute of the State Sports General Administration (CISS), China)	230

Forum of Young Elite Scientists Sponsorship Program by CAST

Time	Venue	Schedule
8:30-11:30	Grand Congress Room 7	Forum of Young Elite Scientists Sponsorship Program by CAST

Lunch

Time	Venue	Schedule
12:00-13:00	3 rd floor of public area	Lunch

Plenary Lecture

Venue: Grand Congress Room 5, 6

No	Time	Speaker	Title / Affiliation	Page
1	13:00-13:45	Zhenfeng Liu	Supramolecular Structural Bases for Photosynthetic Light Harvesting and Its Regulation (<i>Institute of Biophysics, CAS, China</i>)	231
2	13:45-14:30	Wenqing Xu	Structural and Mechanistic Analysis of the Wnt Signaling Pathway (<i>National Facility for Protein Science in Shanghai, China</i>)	232

Closing Remarks & Prize Presentation