

## Schedule

### December 16, 2024, Monday

Time&Date	Welcome to TSIMF
7:30-8:30	Breakfast (60 minutes)
<b>Chair: Stephen S.-T. Yau(丘成栋)</b>	
9:00-9:30	<b>Yiqin Gao(高毅勤)</b> Modeling of bio-related molecules with the help of AI
9:30-10:00	<b>John Z.H. Zhang(张增辉)</b> Protein-ligand binding energy and molecular solvation
10:00-10:30	<b>Zhigang Yao(姚志刚)</b> Single-cell analysis via manifold fitting: A framework for RNA clustering and beyond
10:30-11:00	Coffee Break (within 30 minutes)
<b>Chair: Qi Wang(王奇)</b>	
10:20-11:10	<b>Xiaofan Li(李晓璠)</b> Finite difference approximation with ADI scheme for two-dimensional keller-segel equations
11:10-12:00	<b>Xiaoqin Zou(邹晓勤)</b> An iteratively derived knowledge-based scoring function at atomic level for Protein-DNA Complexes Evaluations
12:00-14:00	Lunch break (120 minutes)
<b>Chair: John Z.H. Zhang(张增辉)</b>	
14:00-14:30	<b>Shi-Jie Chen(陈世杰)</b> Kinetic pathway of HIV-1 TAR cotranscriptional folding
14:30-15:00	<b>Mengcen Guan(关梦岑)</b> A novel representation for proteins related to phosphorylation process
15:00-15:30	<b>Changjun Chen(陈长军)</b> Efficient clustering on a super large collection of molecular structures on a multiple GPU platform
15:30-16:00	Coffee Break (within 30 minutes)
<b>Chair: Shi-Jie Chen(陈世杰)</b>	
16:00-16:30	<b>Dmytro Kozakov</b>
17:30-19:00	Dinner

December 17, 2024, Tuesday

Time&Date	Welcome to TSIMF
7:30-8:30	Breakfast (60 minutes)
<b>Chair: Yiqin Gao(高毅勤)</b>	
9:00-9:30	<b>Qi Wang(王奇)</b> Motion of active elastic particles driven by self-generated force couples
9:30-10:00	<b>Yongshuai Jiang(姜永帅)</b> RABC: Rheumatoid Arthritis Bioinformatics Center
10:00-10:30	<b>Hongyu Yu(余泓谕)</b> Chromosomal fusion recognition based on the alignment-free natural vector method
10:30-11:00	Coffee Break (within 30 minutes)
<b>Chair: Shi Huang(黄石)</b>	
10:20-11:10	<b>Yishuai Niu(牛一帅)</b> A Novel Framework for Predicting Genome Sequences and Gene Mutations Based on Natural Vector and Convex Hull Theory
11:10-12:00	<b>Zhaoming Wang(王朝明)</b> Molecular epidemiological investigation of adverse late effects among survivors of childhood cancer
12:00-14:00	Lunch break (120 minutes)
<b>Chair: Zhaoming Wang(王朝明)</b>	
14:00-14:30	<b>Shi Huang(黄石)</b> Testing the molecular models of modern human origins
14:30-15:00	<b>Qi Wu(吴琦)</b> A mechanic program for phenotypic evolution
15:00-15:30	<b>Xiao He(何晓)</b> ChemGPT: An AI-Driven Molecular Synthesis Platform
15:30-16:00	Coffee Break (within 30 minutes)
<b>Chair: Yishuai Niu(牛一帅)</b>	
16:00-16:30	<b>Jinqiao Duan(段金桥)</b> Early Warning Indicators for Critical Transitions in Stochastic Biological Systems
16:30-17:00	<b>Tao Zhou(周涛)</b> Exploring the convex hull principle in scRNA-seq scenarios
18:00-20:00	<b>Banquet</b>

## December 18, 2024, Wednesday

Time&Date	Welcome to TSIMF
7:30-8:30	Breakfast (60 minutes)
<b>Chair: Shan Zhao(赵山)</b>	
9:00-9:30	<b>Dong Xu(许东)</b> Protein language models and their prompt-based learning
9:30-10:00	<b>Jiahui Chen(陈嘉会)</b> Integrating differential operators and deep learning in biology application
10:00-10:30	<b>Minghui Yang(杨明晖)</b> Investigation of biochemical reaction through quantum computing
10:30-11:00	Coffee Break (within 30 minutes)
<b>Chair: Buyong Ma(马步勇)</b>	
10:20-11:10	<b>Zixuan Cang(仓子暄)</b> Modeling Single-cell and Spatial Transcriptomics Data Using Optimal Transport
11:10-12:00	<b>Guoqing Hu(胡国庆)</b> Asymmetric Natural Vector Method for Predicting Ambiguous Nonstandard Base Codes
<b>Group photo</b>	
12:00-14:00	Lunch break (120 minutes)
13:30-17:00	<b>Free Discussion 13:30-17:00</b>
17:30-19:00	Dinner

## December 19, 2024, Thursday

Time&Date	Welcome to TSIMF
7:30-8:30	Breakfast (60 minutes)
<b>Chair: Jie Wu( 吴杰 )</b>	
9:00-9:30	<b>Jianhua Xing( 邢建华 )</b> Learning governing equations of cellular dynamics from single cell data
9:30-10:00	<b>Xinqi Gong( 龚新奇 )</b> Sable: Bridging the Gap in Protein Structure Understanding with an Empowering and Versatile Pre-training Paradigm
10:00-10:30	<b>Shan Zhao( 赵山 )</b> A new boundary condition for the nonlinear Poisson-Boltzmann equation in electrostatic analysis of proteins
10:30-11:00	Coffee Break (within 30 minutes)
<b>Chair: Dong Xu( 许东 )</b>	
10:20-11:10	<b>Yi Xiao( 肖奕 )</b> Integrated approach to DNA 3D structure prediction
11:10-12:00	<b>Jian Jiang( 江健 )</b> Mathematical AI for virtual screening of drug discovery
12:00-14:00	Lunch break (120 minutes)
<b>Chair: Yi Xiao( 肖奕 )</b>	
14:00-14:30	<b>Jie Wu( 吴杰 )</b> IntComplex for high-order interactions
14:30-15:00	<b>Yuanzhen Shao( 邵元桢 )</b> Ensemble average solvation energy functional and its computational model
15:00-15:30	<b>Jinyong Ying( 应金勇 )</b> Deep learning methods for elliptic problems and the applications in predicting electrostatics
15:30-16:00	Coffee Break (within 30 minutes)
<b>Chair: Xinqi Gong( 龚新奇 )</b>	
16:00-16:30	<b>Zhijie Tan( 谭志杰 )</b> Physics-principle-based prediction for RNA 3D structures
16:30-17:00	<b>Xin Zhao( 赵鑫 )</b> IGHV3-53 Sequence Characteristics and Neutralizing Activity: Predictive Modeling and Broad-Spectrum Antibody Design Against SARS-CoV-2
17:30-19:00	Dinner

## December 20, 2024, Friday

Time&Date	Welcome to TSIMF
7:30-8:30	Breakfast (60 minutes)
<b>Chair: Jianhua Xing( 邢建华 )</b>	
9:00-9:30	<b>Buyong Ma( 马步勇 )</b> Deep learning of protein energy landscape and conformational dynamics from experimental structures in PDB
9:30-10:00	<b>Xue Gong( 公雪 )</b> Topology-enhanced machine learning model for anticancer peptide prediction
10:00-10:30	<b>Jinzhong Lei( 雷锦志 )</b> Quantitative cancer-immunity cycle modeling for predicting disease progression in advanced metastatic colorectal cancer