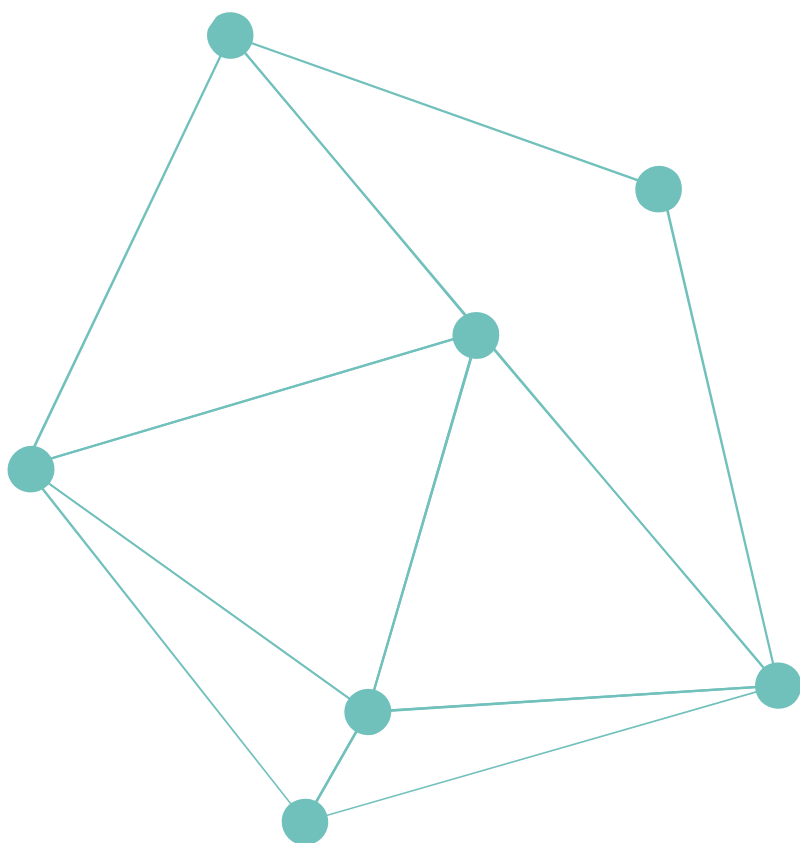# International Conference on Computational Biology and Biomedical Science

计算生物学和生物医学国际学术会议
CBBS2023

Conference Program

August 12-13, 2023   Online

http://www.iccbbs.org/

International Conference on Computational Biology and Biomedical Science (CBBS2023)

CBBS2023 will be held online during August 12-13, 2023. It aims to promote scientific information interchange for the generation of new ideas, collaboration potential and business opportunities among scholars, by bringing together innovative academics and industrial experts in the field of Computational Biology and Biomedical Science at an international platform.

On behalf of the CBBS organizing committee, we sincerely thank you for attending the conference to share your research and insight.

Conference Schedule

Date	Time	Program	Online Platform
August 12, 2023	10:00-17:00	Registration	VooV Meeting / 腾讯会议 Room No: 893-8806-4549
August 13, 2023	8:30-8:40	Opening Ceremony	
	8:40-9:20	Keynote Speech 1	
	9:20-9:50	Keynote Speech 2	
	9:50-10:20	Keynote Speech 3	
	10:20-10:50	Keynote Speech 4	
	10:50-11:20	Invited Speech 1	
	11:20-11:35	Oral Presentation 1	
	11:35-11:50	Oral Presentation 2	
	11:50-11:55	Poster Presentation 1	
	11:55-12:00	Closing Remarks	

Note: The schedule may be adjusted to the actual situation.

Part I. Opening Ceremony
8:30-8:40, Sunday, August 13, 2023

Part II. Keynote Speech and Invited Speech
8:40-11:20, Sunday, August 13, 2023

Speaker	Speech Title	Affiliation
Ying Xu	The fundamental difference between disease biology and normal biology	Southern University of Science and Technology, China
Andrew E. Teschendorff	Network theoretical methods for analyzing single-cell omic data	Chinese Academy of Sciences, China
Dong Li	Photo-thermal-chemical coupling effect in thermal-hydrogen combined therapy for retinal diseases	Xi'an Jiaotong University, China
Pavel Loskot	Statistical Problems in Genetics	Zhejiang University, China
Faez Iqbal Khan	The Effect of Temperature on the Structure and function of SARS-CoV-2 Spike Protein	Xi'an Jiaotong-Liverpool University, China

Part III. Oral Presentations
11:20-11:50, Sunday, August 13, 2023

Speaker	Paper Title	Affiliation
Yuwei Cao	Spine number and morphology co-regulate the initiation of dendritic NMDA spikes	Tsinghua University, China
Xiaoqian Liu	Energy-efficiency computing of up and down transitions in a neural network	China University of Geosciences, Wuhan, China

Part IV. Poster Presentation
11:50-11:55, Sunday, August 13, 2023

Author	Paper Title	Affiliation
Tianze Ding	Artificial intelligence combined with dietary analysis for predicting the risk of heavy metal exposure during pregnancy	Shanghai Jiao Tong University, China

Keynote Speech

Ying Xu
Professor
Southern University of Science and Technology, China

Speech Title: The fundamental difference between disease biology and normal biology

Brief Introduction: Ying Xu is Professor of School of Medicine, Cheungkong Scholars Chair Professor, 1000 Scholars Chair Professor, Computational Systems Biology and Bioinformatics Scholar, Southern University of Science and Technology. He joined the School of Medicine of Southern University of Science and Technology in January 2023. Previously, he was "Board Professor" and "Georgia Science Association Distinguished Scholar Chair" in the Department of Biochemistry, University of Georgia (2003-2022), and the first Director of the Institute of Bioinformatics, University of Georgia (2003-2011). He is an AAAS Fellow and an IEEE Fellow. He received his Ph.D. in Computer Science (Combinatorics and Algorithms) from the University of Colorado in 1991. He joined Oak Ridge National Laboratory in 1993 and worked for ten years as an assistant researcher, researcher, senior staff scientist and group leader. At the beginning, he participated in the Human Genome sequencing project, engaged in the computational methods and software implementation of searching protein-coding genes in the genome. He has also developed computational methods for protein tertiary structure prediction, statistical analysis of microbial genomes, modeling of metabolic systems, and functional prediction. In 2003, his research team joined the University of Georgia to establish the Institute of Bioinformatics, and at the same time joined the Department of Biochemistry at the University of Georgia. Since 2008, we began to study the driving force and mechanism of tumor occurrence, development and metastasis through tumor omics data. He has published nearly 400 academic papers and five books, including the world's first "tumor informatics" monograph, with more than 18000 citations and H index of 69. Since 1995, the UNIVERSITY has trained 38 postdocs and more than 20 doctors, 19 of whom are teaching in American research universities, and more than 20 are teaching in European, Korean and domestic universities. Since 2003, he has hosted the International Symposium on Bioinformatics (2003-2013) and the International Symposium on Systems Biology of Cancer (2011-) in China every year, and lectured on summer courses on Bioinformatics or cancer informatics every year, attracting more than 20,000 participants.

Andrew E. Teschendorff
Professor
Principal Investigator of Shanghai Institute of Nutrition and Health (SINH), Chinese Academy of Sciences, China

Speech Title: Network theoretical methods for analyzing single-cell omic data

Brief Introduction: Andrew Teschendorff studied Mathematical Physics at the University of Edinburgh (1990-1995) under the supervision of Physics Nobel Laureate Peter Higgs. In 2000 he obtained a PhD in Theoretical Physics from Cambridge University. In 2003 he became a Senior Research Fellow in Statistical Cancer Genomics at the University of Cambridge. In 2008 he moved to the University College London (UCL) Cancer Institute to work in Statistical Cancer Epigenomics and where he was awarded the Heller Research Fellowship. He currently holds an appointment as a PI at the CAS Shanghai Institute for Nutrition and Health, formerly a joint CAS-Max-Planck Partner Institute for Computational Biology, and remains an Honorary Research Fellow at the UCL Cancer Institute. Besides Statistical Cancer Epigenomics, his other research interests include Cancer System-omics & Systems Biology and Network Physics. He is an Associate Editor for various journals, notably Genome Biology, and a reviewer and

statistical advisor for journals including Nature, NEJM and Science. He is the recipient of the Tait Medal and Robert Schlapp Prize in Physics, the Jennings Prize, Cambridge-MIT Initiative and Isaac Newton Trust Awards, a Welcome Trust VIP Award, a CAS Visiting Professorship and a CAS-Royal Society Newton Advanced Fellowship. He holds various patents on algorithms for cancer risk prediction and cell-type deconvolution.
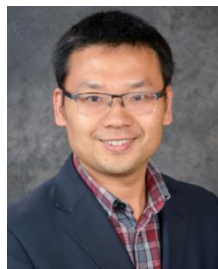
Dong Li
Associate Professor
Xi'an Jiaotong University, China

Speech Title: Photo-thermal-chemical coupling effect in thermal-hydrogen combined therapy for retinal diseases

Brief Introduction: Dong Li, Doctor of Engineering, received his Ph.D. degree from Xi'an Jiaotong University, Xi'an, China, in June 2013 in the field of power engineering and engineering thermophysics, and went to California Institute of Technology, USA, from Oct. 2017 to Oct. 2018 for a study visit and exchange. His research interests are biomedical multiphase flow. He has many years of research experience and a good research foundation in the theory of radiant energy propagation in biological tissues and Monte Carlo method study, the basic theory of biological heat transfer and solution method, and the theory and experimental study of laser thermal effect. He has set up relevant animal experimental systems such as rat spine window, laser thermal therapy experimental platform and spectral measurement experimental platform. At present, he has published one book chapter and 23 papers in domestic and foreign academic journals and international conferences. He has undertaken one project each of National Natural Science Foundation of China (NSFC) Youth Fund, Shaanxi International Science and Technology Cooperation and Exchange Programme, and Xi'an Jiaotong University (XJTU) Comprehensive Cross-sectional Project. He has participated in the key projects of the National Natural Science Foundation of China (NSFC), the national major scientific research instrument development projects, and the overseas, Hong Kong and Macao co-operation projects of the NSFC, etc.

Pavel Loskot
Associate Professor
Zhejiang University, China

Speech Title: Statistical Problems in Genetics

Abstract: Finding associations between phenotype such as specific traits and even diseases and genetic variations has attracted a lot of interest recently. As there are hundreds of thousands genetic variants of genomic code, but also very large sample sizes are now available, we can carry out robust statistical studies to find reliable associations between the measured genotype and observed phenotype. In this talk, we will explain the key principles of genetics and inheritance, and then review the statistical problems, methods and tools that are encountered or available in what is now commonly known as genome-wide association studies (GWAS). The talk will conclude with outlining GWAS applications including predicting clinical risks and inferring underlying causal relationships.

Brief Introduction: 25+ years of experience in design, analysis, implementation and deployment of telecommunication systems through numerous academic and industrial collaborative projects and consultancy contracts. Expert level knowledge of digital and statistical signal processing, algorithms and methods. Solid background in applied probability and statistics. Avid Linux programmer and user since 1996. In 2014/2015, as a Visiting Researcher at CSRC of the Chinese Academy of Engineering Physics started working on computational molecular biology. In 1999-2001, Research Scientist and Project Manager at CWC, Oulu, Finland. A Fellow of the Higher Education Academy of the UK, and the Recognised Research Supervisor of the UK Council for Graduate Education. A Senior Member of the IEEE since 2013.

Invited Speech

Faez Iqbal Khan
Assistant Professor
Xi'an Jiaotong-Liverpool University, China

Speech Title: The Effect of Temperature on the Structure and function of SARS-CoV-2 Spike Protein

Brief Introduction: Dr. Faez Iqbal Khan is an Assistant Professor of the Department of Biological Sciences at the Xi'an Jiaotong-Liverpool University. Dr. Khan received his Ph.D. degree in Computational Chemistry (Bioinformatics) from Durban University of Technology, South Africa. He received his B.Sc. and M.Sc. degrees in Biomedical Science and Bioinformatics. Dr. Khan carried out further research work and teaching at Rhodes University (South Africa), South China University of Technology, and the University of Electronic Science and Technology of China. His primary research focuses on Protein engineering, Protein folding, drug design and Protein dynamics. Dr. Khan established wide-ranging collaborations with BRICS countries and mentored several postgraduate students. He has authored over 70 publications in international peer-reviewed journals which are well cited.
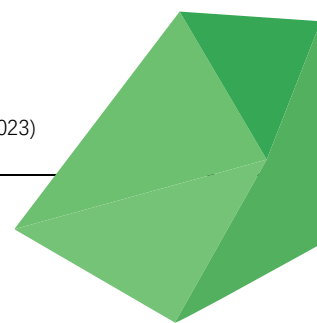
Supplementary Information

Instructions for Presentations

Oral Presentation

Devices:

Laptops (with MS-Office & Adobe Reader)

Materials:

Power Point or PDF files

Duration of each presentation (Tentatively):

Keynote Speech: 25 minutes of Presentation, 5 minutes of Q&A

Oral Presentation: 12 minutes of Presentation, 3 minutes of Q&A

Poster Presentation

Requirement for posters:

Add your Paper ID and Conference Name's Acronym on the top of poster.

Posters are required to be condensed and attractive.

Content: for demonstration of the presenter's paper.

For online posters:

Send a PowerPoint or PDF poster to the committee in advance.

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