The 18th International Conference on Bio-inspired Computing: Theories and Applications

(BIC-TA 2023)

PROGRAMME

December 15-17, 2023

Changsha, China

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Welcoming Notes from the Program Committee Chairs

It is our great pleasure and honor to welcome you to the 18th International Conference on Bio-inspired Computing: Theories and Applications (BIC-TA 2023). The conference is to be held on December 15-17, 2023, at Changsha.

As aimed from its beginning, the conference provides an international forum from professionals, academics, and researchers to present latest developments and to exchange experiences from interdisciplinary theoretical studies, DNA computing, computational algorithms development and applications. Reflecting these technological trends and methodology progression, this conference includes presentations of excellent and interesting papers in all engineering and science branches.

We would like to thank the BIC-TA 2023 international program committees and the additional reviewers for providing the reviews in time. Our special thanks also go to all the plenary speakers for providing the very interesting and informed talks to catalyze subsequent discussions.

We would like to express our sincere gratitude to all the authors. We look forward to seeing you in Changsha, China during December 15-17, 2023.

Sincerely yours,
Yong Wang and Linqiang Pan
Program Committee Chairs

December 15, 2023

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Schedule

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Yalin Wang</td><td rowspan="2">Prof.
Yong Wang</td></tr>
<tr><td>8:40-8:50</td><td>Welcome Speech 2</td><td>Prof.
Chengqing Li</td></tr>
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<tr><td>9:00-9:45</td><td>Keynote Speech 1</td><td>ShennongGPT: A Fine-tuning LLM Model for Medication Guidance</td><td>Prof.
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<tr><td>10:45-11:30</td><td>Keynote Speech 3</td><td>Evolutionary Large-Scale Sparse Multi-objective Optimization</td><td>Prof.
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Zhi-Zhong Liu</td></tr>
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Branch Venue 1 (昆明厅) Tencent Meeting (903-123-7202)			
Time	**Title**	**Speaker**	**Chair**
14:00-14:15	A Non-Uniform Clustering Based Evolutionary Algorithm for Solving Large-Scale Sparse Multi-Objective Optimization Problems	Ye Tian	Prof. Shouyong Jiang
14:15-14:30	Dynamic Constrained Multi-Objective Operation Optimization of Blast Furnace Based on Evolutionary Algorithm	Yumeng Zhao	
14:30-14:45	A Hybrid Response Strategy for Dynamic Constrained Multi-objective Optimization	Yaru Hu	
14:45-15:00	Collaborative Scheduling of Multi-cloud Distributed Multi-cloud Tasks Based on Evolutionary Multi-tasking Algorithm	Tianhao Zhao	
15:00-15:15	Optimization of Large-Scale Distribution Center Location Selection in Fresh Produce Transportation	Wenhao Jia	
15:15-15:30	A Sample Reuse Strategy for Dynamic Influence Maximization Problem	Shaofeng Zhang	
15:30-15:45	Break		
15:45-16:00	Application of Multi-fidelity Surrogate Models to the Noisy Optimization Problems of Carbon Fiber Polymerization Process Parameters	Xinwei Lu	
16:00-16:15	Dynamic Constrained Robust Optimization Over Time for Operational Indices of Pre-Oxidation Process	Ziheng Zhao	
16:15-16:30	HGADC: Hierarchical Genetic Algorithm with Density-Based Clustering for TSP	Yunyi Li	
16:30-16:45	Comparison of CLPSO, ECLPSO and ACLPSO on CEC2013 Multimodal Benchmark Functions	Yi Zhang	
16:45-17:00	Difference Vector Angle Dominance with an Angle Threshold for Expensive Multi-objective Optimization	Jing Chen On-Line	
17:00-17:15	Incremental Learning with Maximum Dissimilarity Sampling Based Fault Diagnosis for Rolling Bearings	Yue Fu On-Line	
17:15-17:30	Binary Multi-Objective Hybrid Equilibrium Optimizer Algorithm for Microarray Data	Peng Su On-Line	

Branch Venue 2 (贵阳厅) Tencent Meeting (387-679-074)			
Time	**Title**	**Speaker**	**Chair**
14:00-14:15	Transformer Surrogate Genetic Programming for Dynamic Container Port Truck Dispatching	Xinan Chen	Prof. Zhi-Zhong Liu
14:15-14:30	Decomposed Multi-objective Method Based on Q-learning for Solving Multi-Objective Combinatorial Optimization	Anju Yang	
14:30-14:45	An Adaptive Knowledge Transfer Strategy for Evolutionary Dynamic Multi-objective Optimization	Donghui Zhao	
14:45-15:00	Expert-Guided Deep Reinforcement Learning for Flexible Job Shop Scheduling Problem	Huili Geng	
15:00-15:15	Eating Behavior Analysis of Cruise Ship Passengers based on K-means Clustering Algorithm	Tao Zhang	
15:15-15:30	Distributed Intelligence Analysis Architecture for 6G Core Network	Wen Sun	
15:30-15:45	Break		
15:45-16:00	Sequence-based Deep Reinforcement Learning for Dependent Task Offloading in Mobile Edge Computing: A Comparison Study	Xiang-Jie Xiao	
16:00-16:15	The Bilinear-MAC Network for Visual Reasoning	Jiaxing Zeng	
16:15-16:30	Review of Traveling Salesman Problem Solution Methods	Longrui Yang	
16:30-16:45	MAD-SGS: Multivariate Anomaly Detection with Multi-scale Self-learned Graph Structures	Junnan Tang On-Line	
16:45-17:00	An Improved MOEA/D with Pareto Frontier Individual Selection Based on Weight Vector Angles	Qiwei Li On-Line	
17:00-17:15	Research on Target Value Assessment Method Based on Attention Mechanism	Guangyu Luo On-Line	
17:15-17:30	Research on Local Collision Avoidance Algorithm for Unmanned Ship Based on Behavioral Constraints	Junjun Wang On-Line	

Branch Venue 3 (合肥厅) Tencent Meeting (355-325-5557)			
Time	**Title**	**Speaker**	**Chair**
14:00-14:15	Design and Realization of Encoders Based on Switching Circuit	Zigeng Liu	Prof. Bing-Chuan Wang
14:15-14:30	Numerical P Systems with Thresholds and Petri Nets	Luping Zhang	
14:30-14:45	Study on the Genetic Links between Type 2 Diabetes Mellitus and Glioma by Bioinformatics	Yidan Sang	
14:45-15:00	Extremal Values of Generalized Somber Index in Chemical Graphs	Xingyue Dong	
15:00-15:15	Multiobjective Biological Survival Optimizer with Application in Engineering Problems	Qingyang Zhang	
15:15-15:30	Reinforcement Learning-based Differential Evolution Algorithm with Levy Flight	Xiaoyu Liu	
15:30-15:45	Break		
15:45-16:00	Hierarchical Competitive Differential Evolution for Global Optimization	Hongtong Xi	
16:00-16:15	Multi-strategy Improved Kepler Optimization Algorithm	Haohao Ma	
16:15-16:30	A Surrogate-based Optimization Method for Solving Economic Emission Dispatch Problems with Green Certificate Trading and Wind Power	Chenhao Lin	
16:30-16:45	A Two-operator Hybrid DE for Global Numerical Optimization	Xiangping Li	
16:45-17:00	GSA-inspired Computational Nanobiosensing for Cancer Detection	Shaolong Shi On-Line	
17:00-17:15	Research on Distributed Control Technology of Ship Pod Propeller Turning Small Angle	Zhangsong Shi On-Line	
17:15-17:30	MODMOA: A Novel Multi-Objective Optimization Algo-rithm for Unmanned Aerial Vehicle Path Planning	Qian Wang On-Line	

Branch Venue 4 (福州厅) Tencent Meeting (555-258-626)			
Time	**Title**	**Speaker**	**Chair**
14:00-14:15	An Improved Trajectory Planning Method for Unmanned Aerial Vehicles in Complex Environments	Chen Zhang	Prof. Pei-Qiu Huang
14:15-14:30	A Two-level Game-theoretic Approach for Joint Pricing and Resource Allocation in Multi-user Mobile Edge Computing	Erqian Ge	
14:30-14:45	Controllability of windmill networks	Pengcheng Guo	
14:45-15:00	Historical Location Information based Improved Sparrow Search Algorithm for Microgrid Optimal Dispatching	Ting Zhou	
15:00-15:15	Application-Aware Fine-Grained QoS Framework for 5G and Beyond	Xi Liu	
15:15-15:30	Research on the Influence of Twin-Bow Appendage with Drum on Ship Speed and Resistance	Chao Lu	
15:30-15:45	Break		
15:45-16:00	Application and Prospect of knowledge graph in Unmanned Vehicle Field	Yiting Shen	
16:00-16:15	Dynamic Analysis of Immersion Pump Rotors Considering Fluid Effects	Fujun Wang	
16:15-16:30	Research on USV Heading Control Algorithm Based on Model Predictive Control	Guanglong Zeng On-Line	
16:30-16:45	A Method of Pathing for Underwater Glider Cluster Based on Optimization Algorithm	Shuang Huang On-Line	
16:45-17:00	UUV Fault Diagnosis Model based on Support Vector Machine	Yuanbao Chen On-Line	
17:00-17:15	UUV Dynamic Path Planning Algorithm based on A-Star and Dynamic Window	Guanglong Zeng On-Line	

Keynote Speaker 1

Prof. Shaoliang Peng

Hunan University

Title: ShennongGPT: A Fine-tuning LLM Model for Medication Guidance

Biography:

Prof. Shaoliang Peng is the executive director/professor of College of Computer Science and Electronic Engineering/the National Supercomputing Center in Changsha (Hunan University, Changsha, China), and is an adjunct professor of State Key Laboratory of Chemo/Biosensing and Chemometrics, and Peng Cheng Lab. He was a visiting scholar at CS Department of City University of Hong Kong (CityU) from 2007 to 2008 and at BGI Hong Kong from 2013 to 2014. His research interests are high performance computing, bioinformatics, big data, AI, and blockchain. He has published dozens of academic papers on several internationally influential journals, including Science, Nature Machine Intelligence, Cell AJHG, NAR, Genome Research, ACM / IEEE Transactions, BIBM and so on, which have been cited by Google Scholar for over 9000 times. He has served as editors of several international journals, including Executive Editors of International Journal of Biological Sciences (IJBS), Executive Editors-in-Chief of Interdisciplinary Sciences: Computational Life Sciences International Journal (ISCLS), Editors-in-Chief of Metaverse, etc. He has also served as chairman and sponsor of the Hunan Provincial Bioinformatics Society, deputy director of biological information professional group in CCF, and Program Chairman of the 17th APBC Asia Pacific Regional Bioinformatics Conference Committee 2019, and BIBM 2016 Conference Invited Speaker.

Keynote Speaker 2

Prof. Ke Tang

Southern University of Science and Technology

Title: Learn to Optimize

Biography:

Ke Tang is a Professor at the Department of Computer Science and Engineering, Southern University of Science and Technology (SUSTech). Before joining SUSTech in January 2018, he was with the School of Computer Science and Technology, University of Science and Technology of China (USTC), as an Associate Professor (2007-2011) and a Professor (2011-2017), respectively. His major research interests include evolutionary computation and machine learning, as well as their applications. He is a Fellow of IEEE and Changjiang Scholar Professor for Artificial Intelligence (Ministry of Education of China). He is also the recipient of a few national and international awards, such as the IEEE Computational Intelligence Society Outstanding Early Career Award, the Natural Science Award of MOE of China, and the Newton Advanced Fellowship (Royal Society, UK).

Keynote Speaker 3

Prof. Xingyi Zhang

Anhui University

Title: Evolutionary large-scale sparse multi-objective optimization

Biography:

Prof. Xingyi Zhang is currently a Professor with the School of Computer Science and Technology, Anhui University, Hefei, China. His current research interests include unconventional models and algorithms of computation, evolutionary multi-objective optimization, and logistic scheduling. He is the recipient of the 2018, 2021, and 2024 IEEE Transactions on Evolutionary Computation Outstanding Paper Award and the 2020 IEEE Computational Intelligence Magazine Outstanding Paper Award. He is an Associate Editor of IEEE Transactions on Evolutionary Computation.

Keynote Speaker 4

Prof. Weigang Chen

Tianjin University

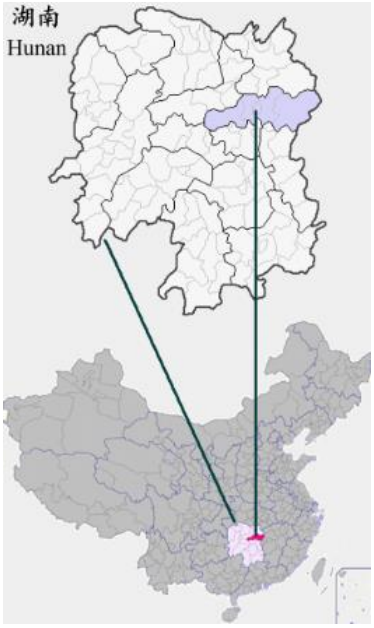
Title: Correcting complex errors in DNA data storage

Biography:

Prof. Weigang Chen is a full professor with the School of Microelectronics and Frontiers Science Center for Synthetic Biology (MOE), Tianjin University. He received the B.E. degree from Shandong University, Jinan, China and Ph.D. degree from Tsinghua University, Beijing, China, in 2003 and 2008, respectively. From September 2008 to September 2009, he was a postdoc research fellow with ETIS (CNRS UMR 8051), Cergy, France. From October 2014 to September 2015, he was a visiting research fellow with UCLA, California. Currently, His current research interest includes DNA data storage, information theory and coding. He designed novel schemes for DNA data storage using indel correction codes and complete the verification including all the processes. He has published 100 papers in the academic journals including National Science Review, IEEE Transactions on Communications, etc and the international conferences. He has 60 filed patents in China. He was awarded by the Program for New Century Excellent Talents in University (NCET-12-0401) from Ministry of Education in China. He won the Best paper award of the IEEE 3rd International Conference on Multimedia Information Processing and Retrieval (IEEE MIPR 2020).

Changsha in Brief

Changsha is the capital of Hunan Province in the People's Republic of China. It is an important central city in central China and one of the megacities in China, with a population of over ten million, the important central city in the middle reaches of the Changjiang River.



Changsha is an important central city in the middle reaches of the Yangtze River, a national "two-oriented society" comprehensive supporting reform pilot area, an important grain production base in China, and an important node city in the middle reaches of the Yangtze River city cluster and the Yangtze River Economic Belt. It is adjacent to Yichun and Pingxiang of Jiangxi Province in the east, Loudi and Yiyang in the west, Zhuzhou, and Xiangtan in the south and Yueyang in the north. Changsha is a comprehensive transportation hub where Beijing-Guangzhou high-speed railway, Shanghai-Kunming high-speed railway and Chongqing-Xiamen high-speed railway converge. With Yuelu Mountain, Xiangjiang River and Orange Island as geographical and cultural symbols, Changsha is also known as the "City of Mountains and Rivers". It is also known as the "Capital of Entertainment" in China because it has nurtured the city culture of both elegance and folklore.

Changsha is one of the first national historical and cultural cities, after three thousand years of city name, city site unchanged, "Qu Jia town", "Chu Han city", "Xiao Xiang Zhu Si" said. There are historical relics such as Mawangdui Han Tomb, Four Yang Square statue, three Kingdoms Wu Jian, Yuelu Academy and Tongguan Kiln. The Huxiang culture of "applying to the world and being inclusive" is condensed.

Changsha traditionally takes construction machinery manufacturing as a pillar industry. With the economic transformation, the output value of new materials industry reached 262.1 billion yuan in 2015, replacing construction machinery to become the largest industry in Changsha. In 1978, the total GDP of Changsha was 1.685 billion yuan, and reached 1,053.551 billion yuan in 2017. Changsha, which once had a weak foundation, accelerated industrialization by promoting independent innovation and focused on strengthening the county economy, and its GDP increased by 460% from 2005 to 2015, ranking first among thirty-three major cities. In 2016, Changsha put forward the goal of building "three centers", namely the National intelligent Manufacturing Center, the National Innovation and Creativity center, and the national transportation and logistics center. There are fifty-eight universities in Changsha, 97 independent research institutes, 52 academicians, 14 national engineering technology research centers and 15 national key engineering laboratories. There are scientific achievements such as hybrid rice breeding, "Tianhe" supercomputer, and the first 3D sintering printer in China.

Introduction to Central South University

Central South University (CSU) is situated in Changsha, a famous historical and cultural city in Hunan, China, and covers an area of 2,760,000 m2, with its campuses distributed on the east and west of Xiangjiang River. Backed by the majestic Yuelu Mountain and facing the grand Xiangjiang River, CSU has pleasing scenery and is ideal for study and research.

As a top university directly under the Ministry of Education (MOE) of the People's Republic of China, CSU is one of the first universities admitted into “Project 211” (the Chinese government's endeavor aimed at strengthening about 100 institutions of higher education and key disciplinary areas), “Project 985” (the Chinese government's effort to found world-class universities), and “Plan 2011” (the Chinese government's another initiative to improve universities' innovation forces). In September 2017, CSU was enlisted as one of the A-Level "Double First Rate" universities by the State Council. Currently, the Secretary of the CPC Committee of CSU is Yi Hong and the President is Li Jiancheng.

CSU was established in April 2000 by merging the former Hunan Medical University (HMU), the former Changsha Railway University (CRU) and the former Central South University of Technology (CSUT). The predecessor of CSUT was Central South Institute of Mining and Metallurgy founded in 1952 and that of CRU was Central South College of Civil Engineering and Architecture founded in 1953; their main disciplines originate in Mining & Metallurgy and Civil Engineering, two disciplines of Hunan Industrial College established in 1903. The predecessor of HMU was Xiangya Medical College founded in 1914 as one of China's earliest colleges offering western medicine courses.

Based on its over one hundred years of experience in operation as an education institution, CSU actively responds to the reform of China's higher education, advocates “Learning by Doing and Learning for Using” and pursues “Virtue, Truth, Perfection, Inclusiveness”. Sticking to its own operation characteristics and orienting at major demands of the country, CSU has made great progress in its overall strength through teamwork, innovation and commitment to excellence.

CSU has complete disciplinary systems for Non-ferrous Metals, Medicine, Rail Transit, etc., covering Philosophy, Economics, Law, Education, Literature, Science, Engineering, Medicine, Management and Art, and Military Science was embraced. At present, it has 6 national key primary disciplines, 12 national key secondary disciplines, 1 national key discipline (in development) and 61 national key clinical specialties, and sets up 31 schools and institutes with 104 undergraduate majors, 35 primary disciplines authorized for the doctoral degree, 46 primary disciplines authorized for the master’s degree, 2 doctoral degree categories, 23 master's degree categories and 32 post-doctoral research centers. ESIs (Essential Science Indicators) of 15 disciplines including Materials Science, Engineering, Clinical Medicine, Chemistry, Pharmacology and Toxicology, Biology and Biochemistry, Neuroscience and Behavior, Mathematics, Computer Science, Molecular Biology and Genetics, and Social Sciences, Immunology, Psychiatry and psychology, Geoscience and Environmental science and ecology are among the top 1% in the world and the ESI of materials science is among the top 1‰ in the world. Besides, CSU possesses three large Grade-A Class-Three comprehensive hospitals, i.e., Xiangya Hospital, the Second Xiangya Hospital and the Third Xiangya Hospital, and also has Xiangya Stomatological Hospital and the Affiliated Cancer Hospital, Haikou Hospital and Zhuzhou Hospital of Xiangya School of Medicine.

CSU insists in strengthening by talent cultivation, so it has created has a strong faculty including 2 academicians of Chinese Academy of Sciences, 14 academicians of Chinese Academy of Engineering, 17 talents from the national "plan for ten thousand people" , 19 chief scientists of “Program 973” (National Basic Research Program) (2 for the youth project), 52 distinguished and chair professors of “Chang Jiang Scholars Programme”, 7 national famous teachers, over 1,500 professors and personnel with corresponding senior professional titles and 473 experts who enjoy the special government allowance.

CSU values moral education and high-quality cultivation, so it has been bettering its talent training model. It has over 55,000 full-time students, including over 34,000 undergraduates, over 20,000 graduate students and nearly 1,647 overseas degree students. The university has 57 national excellent courses, 8 national teaching teams and 8 national experimental teaching demonstration centers. Since it took the lead to set up the innovation-oriented experimental class for advanced engineering talents, it became a pilot university implementing MOE's education and training program for excellence engineers, excellent physicians and excellent legal talents. CSU is one of China's first pilot universities offering eight-year medical education (Doctor of Medicine) and China's first university offering master's programs involving command-skill integration for military officers in active service. In addition, CSU is included into China's first model universities experienced in graduate employment and is one of the 10 most popular universities among China's top 100 enterprises.

Orienting at the major demands of the country, the university drives collaborative innovation and serves the development of the national economy and the modernization of national defense. It has 22 national-level innovation platforms, including 2 national key laboratories, 5 national engineering research centers, 2 national engineering technology research centers, 6 national engineering laboratories, 1 key national defense science and technology laboratory, 1 national engineering and innovation capacity building platform and 3 national clinical medical research centers. Furthermore, it has led the construction of 2 national "Collaborative Innovation Centers 2011". Since 2000, the university has won 91 national Three Major Awards for Science and Technology (Award for Natural Sciences, Award for Technological Invention and Award for Scientific and Technological Progress), including 14 first prizes (special prizes) of national science and technology, and 9 projects have been selected into the "Top Ten Progresses in Science and Technology made by Chinese Colleges and Universities".

CSU is an open university. It has established long-term cooperation with more than 200 universities and research institutes in over 30 countries and regions, such as the United States, the United Kingdom, Australia, Canada, Japan, France, Germany and Russia, and has been extensively engaged in industry-university-research cooperation with a large number of multinational enterprises. Overseas students from more than 100 countries and regions study here.

Shouldering the historical responsibility on China's high-level university construction, CSU will accelerate its comprehensive reform and connotative development to grow up into an internationally well-known research university with its own characteristic and make greater contributions to the great rejuvenation of the Chinese nation.

Introduction to Xiangtan University

Xiangtan University (XTU) is a comprehensive university selected in the Double First-Class University list, which was founded in accordance with Chairman Mao Zedong's initiative in 1958. On September 10, 1958, Chairman Mao Zedong inscribed the Chinese characters of Xiangtan university and told its faculty members to"MakeItAGoodOne". In 1974, Deng Xiaoping, Li Xiannian, and other national leaders approved the resumption of its academic activities. In 1978, the State Council designated XTU as one of the 16 comprehensive National Key Universities in China. In 1981, it became one of the first universities qualified to confer master's degree. Since then, Hua Guofeng, Jiang Zemin, Li Peng and other national leaders have successively visited, showing great care and support for XTU. On September 6, 2018, General Secretary Xi Jinping made an important instruction that he wished Xiangtan University to be much better and characterized as a university located in the hometown of Chairman Mao Zedong. In February 2022, XTU was selected in the Double First-Class University list.

XTU has been steadily developing to obtain more scientific achievements since its foundation. It was selected in the Double First-Class University list and jointly supported by the People's Government of Hunan Province, the Ministry of Education and the State Administration of Science, Technology and Industry for National Defence. It was also one of the few Chinese universities listed in THE USNEWS and other famous world university rankings at the same time.

XTU has a graduate school, 23 colleges/teaching departments, offering 9 major disciplines: literature, history, philosophy, science, engineering, economics, management, law, and art. The Mathematical discipline is listed in the world's First-Class Disciplines project. The disciplines of chemistry, materials science, engineering, and mathematics are among the world's top 1% according to the Essential Science Indicators (ESI). Seven disciplines are among the 2019 Shanghai Ranking's Global Ranking of Academic Subjects. XTU has 3 national key disciplines, 5 domestic First-Class Constructed Disciplines, 10 domestic First-Class Cultivated Disciplines, 16 first-level disciplines authorized to confer a doctor's degree, 31 first-level disciplines authorized to confer a master's degree, 19 professional master's programs, 15 post-doctoral research centers. It also has 41 national level and 15 provincial level First-

Class Undergraduate Programs, 11 national level and 23 provincial level Characteristic Majors, 1 national level and 8 provincial level Comprehensive Reform Pilot Majors, and 12 majors were accredited by the China Engineering Education Accreditation Association.

XTU has a National Applied Mathematics Center, a National Base for International Science and Technology Cooperation, 2 National-Local United Engineering Laboratories, a National-Local United Engineering Research Center, 2 Key Research Bases for Humanities and Social Sciences under the Ministry of Education, a Research Base for Innovation and Development of Red Tourism under the Ministry of Culture and Tourism, 3 Key Laboratories of the Ministry of Education, 2 Engineering Research Centers of the Ministry of Education, 1 Collaborative Innovation Center supported by the Ministry of Education and Hunan Province, 3 Hunan 2011 Collaborative Innovation Centers, 2 Hunan Provincial Professional and Characteristic Think Tanks. It also has 4 innovative teams of the Ministry of Education, 5 innovative research groups supported by Hunan Natural Science Fund, 3 innovation teams for Huxiang Preeminent Talents Gathering Program, 8 scientific and technological innovation teams from universities in Hunan Province. XTU is one of the first universities being honored as National Experimental Institution for Collaborative Application of Patents, National Intellectual Property Service Center in Universities, Hunan Provincial Intellectual Property Center in Universities.

XTU has a total of 1,645 full-time teachers. 76% of these teachers hold professional titles or a doctor's degree, and 25% of them used to study abroad. There are a large number of preeminent teachers and research teams at XTU, including 5memebersof the Chinese Academy of Engineering, 1 representative of the Recruitment Program of Global Experts, 4 candidates of the Ten Thousand Talents Plan, 6 scholars of the Chang Jiang Scholars Program, 4 scholars supported by the National Science Fund for Distinguished Young Scholars and the National Science Fund for Excellent Young Scholars, 4 participants of the Hundred-Thousand-Ten Thousand Project, 4 National Model Teachers, 5 National Outstanding Teachers, 3 National Preeminent Teachers, 1 Feng Kang Prize winner, 2 Young Elites in Publicizing Ideology and Culture, 1 National Outstanding Science and Technology Expert, 1 National Pioneering Expert of Intellectual Property, and 1 teaching group honored as National Huang Danian-style Faculty Team.

In recent years, XTU has obtained remarkable achievements in applying for national projects. The amount of funds received from the National Social Science Foundation of China ranked about 26 among all universities in China. According to statistics from Renmin University of China, the Amount of Cited and Reprinted Articles and Composite Index of Social Science Papers of XTU ranked top 3% nationwide. There are 7 think tanks of XTU selected in the China Think Tank Index (CTTI). XTU has achieved more than 120 awards including the National Natural Science Award, National Scientific and Technological Advancement Award, Outstanding Scientific Research Achievements Award for higher educational institutions awarded by the Ministry of Education, Hunan Science and Technology Award, and Hunan Social Science Achievements Award.

XTU has a total of 33,433 enrolled full-time students, including 8,886 graduate students and doctoral students. It offers a Base for Top Students in Basic Disciplines Training Program 2.0 of the Ministry of Education, National Training Base for Outstanding Legal Elites, National Pilot Zone for Innovative Teaching Methods, 3 National Teaching Experiment and Demonstration Centers, and National Cultural and Moral Education Base for College Students. XTU is the implementation institution for National Innovative Experimental Program for College Students, one of the first Model Universities for Innovation and Entrepreneurship Education Reform, National Model University for Innovation and Entrepreneurship Experiences, National Model University for Graduate Employment. Since its founding, XTU has had nearly 310,000 alumni, and many of them have contributed a lot for national construction and social progress.

XTU enjoys an increasing global reputation. It has cooperated with more than 70 universities and research institutions from more than 20 countries, such as the United States, the United Kingdom, Japan and so on, and launched more than 30 international cooperative training programs. XTU was selected in the China-Africa Universities 20+20 Cooperation Plan initiated by the Ministry of Education, and the University Alliance of Belt and Road. It jointly established Confucius institutes with Leon University in Spain and Makerere University in Uganda respectively.

Mountains rise high, and rivers run deep. Under the guidance of the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, XTU will implement the spirit of general secretary Xi’s important instructions, promote the XTU spirit of keeping in mind the entrustment, making pioneering effort, and pursuing excellence. As a university located in the hometown of Chairman Mao Zedong, XTU will be a socialist university with Chinese characteristics, accelerate the Double First-Class construction, and make greater contribution in realizing the Chinese dream of national rejuvenation.