

2020 SUSTech PhD Scholarship For International Students

Southern University of Science and Technology (SUSTech) , Shenzhen, China

<https://gs.sustech.edu.cn>



SUSTech

Southern University
of Science and
Technology

About SUSTech

Established in 2012, Southern University of Science and Technology (SUSTech) is a public research university funded by the Shenzhen Municipality. It is positioned to be a top-tier international university that excels in interdisciplinary research, the nurturing of innovative talents and the transfer of new knowledge to practice. Located in Shenzhen, one of the fastest growing cities in China and the country's window to the world, SUSTech enjoys strong connections with leading companies in China and renowned universities across the globe.

SUSTech is comprised of the College of Science, College of Engineering, College of Innovation and Entrepreneurship, College of Humanities and Social Sciences, School of Business, and the School of Medicine.

In the Times Higher Education World University Rankings released in September 2020, SUSTech ranked 9th among mainland Chinese universities.



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About the PhD Programs

1. SUSTech admits PhD students in the research areas of all academic departments and offers PhD degrees in Mathematics, Physics, Biology, Mechanics, and Intelligent Manufacturing & Robotics.
2. All PhD programs are offered in English.
3. Students with a Master's degree are expected to complete their PhD program within four years.



SUSTech PhD Scholarships

SUSTech offers PhD Scholarships to full-time PhD students with excellent research potential. This prestigious Scholarship provides a basic annual stipend of RMB80,000 plus a possible performance-based award of RMB20,000 per year, for a maximum period of four years. The performance-based award will be evaluated by SUSTech departments and approved by the Graduate School.



Criteria for SUSTech PhD Scholarships



1. Applicants must hold non-Chinese passport.
2. Applicants must possess a Master's degree from a leading university within a country/region, and have demonstrated outstanding potential for research excellence.
3. Communication and interpersonal skills as well as leadership abilities are also important criteria for the selection of Fellowship recipients.
4. English language requirements: TOEFL 80 or above; or IELTS 6.5 overall or above, with no sub-scores lower than 6.0.

Tuition and Accommodation Fees



1. Tuition fee: RMB40,000 per year. Registration fee: RMB500.
2. Accommodation fee: RMB 1,500 per month for a single room in the graduate student dormitories.
3. Extra financial support is available for all international students after enrollment to cover up to 3/4 of the tuition fee and accommodation fees for 11 months. The application should be made to the Graduate School after enrollment.
4. The fees listed above are for reference and are subjected to adjustment.

Research Areas

Please visit the Graduate School webpage: <https://gs.sustech.edu.cn/liuxuesheng2020> for information of SUSTech supervisors and research areas. Departmental contacts for enquiries and receiving applications are listed below.

How to Apply

1. Application Deadline:

January 15, 2020. Please email the application documents (PDF version) to department contacts listed below. Subject of email: Application for SUSTech PhD Admission 2020 – International Student – Name

Department Contacts:

Department of Mathematics

Ms. Yu
Maths.yzb@sustech.edu.cn
<http://math.sustech.edu.cn/?lang=en>

Department of Physics

Ms. Li
phyzb@sustech.edu.cn
<http://phy.sustech.edu.cn/en/?lang=en>

Department of Chemistry

Ms. Gao
chem.yzb@sustech.edu.cn
<http://chem.sustech.edu.cn/index.php/index/index.html?l=en-us>

Department of Biology

Ms. Su
Swx_yzb@sustech.edu.cn
<http://bio.sustech.edu.cn/en/>

Department of Biomedical Engineering

Ms. Lin
bmez@sustech.edu.cn
http://bme.sustech.edu.cn/index/en.html?page_id=1

Department of Mechanical & Energy Engineering

Ms. Xiao
meezb@sustech.edu.cn
<http://mee.sustech.edu.cn/en/>

Department of Electrical & Electronic Engineering

Ms. Song
eezb@sustech.edu.cn
<http://eee.sustech.edu.cn/?lang=en>

Department of Materials Science & Engineering

Ms. Lian
msezb@sustech.edu.cn
<http://mse.sustech.edu.cn/en/>

Department of Mechanics & Aerospace Engineering

Ms. Yang
maeyzb@sustech.edu.cn
<http://mae.sustech.edu.cn/en/>

Department of Computer Science & Engineering

Mr. Zhang
csyzb@sustech.edu.cn
<http://cse.sustech.edu.cn/en/>

Department of Ocean Science & Engineering

Ms. Guo
oceanzb@sustech.edu.cn
<http://ocean.sustech.edu.cn/en/>

Department of Earth & Space Sciences

Ms. Chen
esszb@sustech.edu.cn
<http://ess.sustech.edu.cn/>

School of Environmental Science & Engineering

Ms. Su
hijzb@sustech.edu.cn
<http://ese.sustech.edu.cn/en/>

School of Microelectronics

Ms. Wang
smeyzb@sustech.edu.cn
<https://sme.sustech.edu.cn/>

School of System Design and Intelligent Manufacturing

Ms. Liang
sdim@sustech.edu.cn
<http://sdim.sustech.edu.cn/>

Enquiries

Ms. Zhu
SUSTech Graduate School
Email: zhub@sustech.edu.cn;
yzb@sustech.edu.cn
Graduate School webpage:
<https://gs.sustech.edu.cn/liuxuesheng2020>
SUSTech official website:
<http://sustech.edu.cn/en/>

2. Application Documents (PDF version):

- (1) Application Form (Please download the "Application form-SUSTech PhD" from <http://gs.sustech.edu.cn/zhaoshengQ&A>)
- (2) Personal statement, in Chinese or English, which should include study and work experience, reasons for application and study proposal.
- (3) Research proposal, in English, no fewer than 1500 words.
- (4) Degree certificates and academic transcripts, which must be original documents or notarized copies. If applicants are university students, they shall also provide an official pre-graduation certificate/letter showing their student status and stating the expected graduation date. For all documents in languages other than Chinese or English, notarized copies of translations in Chinese or English need to be provided.
- (5) Photocopies of language proficiency certificates.
- (6) Two letters of recommendation with appropriate contact details, in Chinese or English.
- (7) A photocopy of your passport.
- (8) Other supporting documents that prove academic abilities.

Departments may require hard copies of the above documents. Application materials will NOT be returned regardless of the result of application.

Evaluation and Admission

Applications will be considered on the basis of the documents provided by the applicants. An interview and/or additional tests may be needed. Offer letters will be issued to the successful applicants by the SUSTech Graduate Admission Office following the release of the application outcomes around March 2020. Applicants who are not admitted will not be informed.

Visa Application and Registration

Admitted students should bring their personal ordinary passport, Certificate of Admission, Visa Application Form (JW202/JW201), as well as other documents as required to the Embassy or Consulate of the People's Republic of China for a student visa (X1 visa). Students shall come to SUSTech for registration during the dates indicated by the Admission package with the required documents. Normally, the registration period is in late August. Students must enter China with an ordinary passport and an X1 visa, and must apply for a Residence Permit within 30 days of arrival in China.

All students should present the necessary original or notarial degree certificates upon registration at SUSTech for enrollment qualification review. Students who fail the enrollment qualification review will be disqualified from enrollment.

2020 SUSTech PhD Project List

For International Applicants

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No.	FACULTY	DEPARTMENT	NAME OF SUPERVISOR	PHD DEGREE IN	PROJECT TITLE	PROJCT DESCRIPTION	EMAIL	WEBPAGE	
1	College of Engineering	Department of Materials Science and Engineering	Zhenghe Xu (Chair Professor)	Physics	Interfacial science in solid waste remediation	Cleaning of oil-contaminated soil by switchable surfactants	xuzh@sustech.edu.cn	www.xumaster.com	
						Recycle of waste heavy duty batteries			
2			Zhouguang Lu (Associate Professor)	Physics	Lithium ion batteries	Design, synthesis and electrochemical reaction mechanism of organic and inorganic materials for lithium and sodium ion batteries	luzg@sustech.edu.cn	http://faculty.sustech.edu.cn/-profiles/luzg	
3			CHENG,Chun (Associate Professor)	Physics	Fabrication, characterization, and applications of functional nanomaterials	We aim at reliable fabrication methods of functional nanomaterials with high quality and interesting properties. Intensive study of their properties can help us gain more knowledge about how to modify them for extensive powerful applications.	chengc@sustech.edu.cn	http://faculty.sustech.edu.cn/?tagid=chengc&orderby=date https://www.researchgate.net/profile/Cheng_C?ev=hdr_xprf	
4		Weishu Liu (Associate Professor)	Physics	Thermal energy harvest for IoT	The aim of this project is to combine the thermoelectric device and thermal management parts to achieve high efficient thermal energy harvesting from environment. The electricity would be a cable free or battery free power supply for many IoT sensors.	liuws@sustech.edu.cn	http://www.researcher-id.com/rid/E-7098-2011 https://scholar.google.com/citations?user=A9WzDGQAAAAJ&hl=zh-CN		
5		Department of Electronic and Electrical Engineering	Xiaowei Sun (Chair Professor)	Physics	Study on the optoelectrical properties of InP-based core-shell quantum dot and the working mechanism to InP-LED	Learning on the synthesis of InP-based core shell quantum dot and fabricate light emitting diodes, study on the working mechanism of InP-LED, improve the performance and stability of LED device	sunxw@sustech.edu.cn	https://eee.sustech.edu.cn/?view=%E5%AD%99%E5%B0%8F%E5%8D%A8&jsid=18&lang=en	
						Infrarde quantum dot LED			Colloidal quantum dots have been proposed for the development of low-temperature solution-processed quantum-dot devices, including next-generation photovoltaics, photodetectors and light-emitting diodes (LEDs). In particular, the development of high-power, efficient and low-cost infrared LEDs will further progress in applications such as night vision, optical communications and sensing.
6		YanJun Liu (Associate Professor)	Physics	Active plasmonics and metasurfaces	The PhD candidate will involve the research on liquid crystal enabled active plasmonics and metasurfaces. He/she will use both numerical and experimental tools to design, fabricate, and characterize active nanodevices with particularly interesting properties for various applications.	yjliu@sustech.edu.cn	http://faculty.sustech.edu.cn/?tagid=yjliu&lang=en		
7		Department of Electrical and Electronic Engineering	GONG Yi (Professor)	Mathematics (related to ICT technology)	Federated Edge Learning Design in Wireless Networks	Enabling by the Internet of Things (IoT) devices, the artificial intelligent (AI) applications are expected to be deployed at the edge of wireless networks. This trend has led to a new research field called federated edge learning (FEEL). The PhD student is expected to study learning-driven multiple access, resource allocation and signal coding during this PhD project.	gongy@sustech.edu.cn	https://eee.sustech.edu.cn/?view_category=fulltime&lang=en	
						Game Theory Based User Association in Ultra-Dense Networks			Ultra-dense network represents a new paradigm shift in future networks. The basic idea is to get the access nodes as close as possible to the end users. The student is expected to study the matching problem such as college admission game to motivate the design of user association strategy.
8		Department of Electrical and Electronic Engineering	Aung Ko Ko Kyaw (Associate Professor)	Physics	Highly-efficient and stable perovskite solar cells	We are aiming to achieve highly-efficient and stable perovskite solar cell through the development of new structure perovskite and interfacial layer. We will also work on device physics and interface engineering.	aung@sustech.edu.cn	www.kyawresearchgroup.com	
						Next-generation flexible/stretchable sensing electronics for personal health-monitoring system			In this project, we will work on field-effect transistor (FET) type flexible pressure/strain sensors on flexible/stretchable substrates, which have high potential to be used as physiological signal detection for health-monitoring system.
						Flexible Organic Electrochemical Transistors for Biosensors			In this project, we will fabricate flexible OECTs on flexible/stretchable platform for biosensors, which are potentially useful in emerging areas such as wearable electronics, electronic skins, body-integrated implantable sensors and neuromorphic computing.
9		Taihong Wang (Chair Professor)	Physics	Micro/nano Sensors and applications	Develop ultra-sensitive detection technology and do non-invasive monitoring human body signs and characteristic metabolites. Design and realize inertial sensor, accelerometer, tactile sensor, vibration sensor, and sweat sensor. Solve out key scientific and technical issues for future medical diagnosis.	wangth@sustech.edu.cn			
10		Tzung-May Fu (Professor)	Mechanics	Air quality and its response to changes in climate and human activity over Southeast Asia / South Asia / Africa	Application of a regional meteorology-air quality coupled model to study the air quality over Southeast Asia, South Asia, or Africa and its response to changes in climate and human activity	fuzm@sustech.edu.cn	https://fugroup.org/index.php/Main_Page		
11		Junguo Liu (Professor)	Mechanics	1. Water Resource Changes in Greater Rivers Region in Southeast and South Asia; 2. Water Resources Assessment in a Coupled Human and Natural System	Investigate historical evolution and driving forces of water resources by using big data, integrated models and remote sensing on different scales, e.g. Lancang-Mekong River Basin, the Greater Rivers Region in Southeast and South Asia, and all over the world; find nature-based solutions for water management.	liujg@sustech.edu.cn	https://www.sustech.edu.cn/en/english-liu-junguo.html?lang=en		
12		Luke Gibson (Associate Professor)	Biology	Hydropower, fragmentation, and collapse of ecosystem services	Surveys of animal-plant interactions (and loss thereof) in fragments embedded within hydropower reservoirs in China and Southeast Asia	biodiversity@sustech.edu.cn	www.primarilyforests.com		
13		Lei Zhu (Assistant Professor)	Mechanics	Modeling and remote sensing of global tropospheric halogen chemistry	Halogens influence global tropospheric chemistry by depleting ozone, oxidizing elemental mercury, and extending the atmospheric lifetime of methane. The project will focus on two aspects: modeling of global tropospheric halogen chemistry, and developing operational satellite halogen (e.g., BrO, IO, and OCIO) products.	lei.zhu.02@gmail.com	https://www.acmrsg.org		
14		Hong Chen (Assistant Professor)	Physics	Eco-materials for Pollutants Treatments	We are aiming to develop novel structured functional eco-materials for different types of pollutants treatment. To understand their structure-functional relationship down to atomic-scale.	chenh3@sustech.edu.cn	http://faculty.sustech.edu.cn/-profiles/chenh3		
15	Department of Mechanical and Energy Engineering	Chengzhi Hu (Assistant Professor)	Intelligent Manufacturing and Robotics	Magnetic microrobot for biomedical applications	PhD students can work on the design, fabrication and manipulation of new type of magnetic microrobots, swarm control of microrobots and exploring their biomedical applications, such as targeted drug delivery, micro surgery, toxin removal and so on.	hucz@sustech.edu.cn	https://mee.sustech.edu.cn/2018/node_1_4_0504/615.html		
					Microfluidic chips for single cell analysis			Microfluidic chips are miniaturized devices that can integrate various functions such as pumping, sensing, mixing, reaction or manipulations in a small chip. The project needs to develop new microfluidic chips for on-chip analyzing cell-cell interaction, or performing different types of single cell analysis.	
16		Chaoyang Song (Assistant Professor)	Intelligent Manufacturing and Robotics	Rigid-Soft Robotics for Learning in Unstructured Environment	1. Design theory of rigid-soft robotics 2. Bionic robot integration 3. Learning method for unstructured interaction	songcy@sustech.edu.cn	Ancorasir.com		
17		Jiaming Bai (Assistant Professor)	Intelligent Manufacturing and Robotics	Multifunctional Additive Manufacturing	- Multifunctional nanocomposites for additive manufacturing. - Additive manufacturing of advanced ceramics - Additive manufacturing of multifunctional devices	baijm@sustech.edu.cn	https://mee.sustech.edu.cn/2017/node_1_4_0829/497.html		
18		Meng Lin (Assistant Professor)	Intelligent Manufacturing and Robotics	Solar-driven fuel processing technology	Optimization and design of high-performance solar thermal/thermochemical/(-photo)electrochemical conversion devices based on sophisticated modeling and simulation techniques leading to rational design of energy devices taking into account of coupled physics across multiple length and time scales.	linm@sustech.edu.cn	https://mee.sustech.edu.cn/2019/node_1_4_0826/826.html		
19		Hongqiang WANG (Assistant Professor)	Intelligent Manufacturing and Robotics	Novel Actuation and soft robots	1. novel actuator (e.g., electrostatic) design, fabrication, and applications to microrobots, medical robots, and bioinspired robots. 2. Soft robots. 3. Swarm robots,	wanghq6@sustech.edu.cn	http://hongqiang-wang.com/		

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20		Department of Mechanical and Energy Engineering	Qi-He Wei (Professor)	Intelligent Manufacturing and Robotics	flat optics, active matter, stimuli-responsive soft materials and structures	(1) flat microoptical devices made of liquid crystal polymers; (2) synthetic microswimmers of low symmetric shapes and their collective behaviors; (3) stimuli-responsive microstructures and devices for programmed origami and kirigami; (4) nanomanufacturing including 3D and 4D printing techniques.	weiqh@sustech.edu.cn	https://mee.sustech.edu.cn/2019/node_1_2_0806/814.html	
21		Department of Computer Science and Engineering	Georgios Theodoropoulos (Chair Professor)	Mechanics	Environments for Big Modelling of Complex Systems	The project will seek to investigate challenges around data-driven large scale distributed agent-based simulation and develop a system to support such simulation exercises. The project will involve: agent-based modelling, distributed simulation, data analytics, IoT, Cloud and HPC.	theogeorgios@gmail.com	www.theodoropoulos.com	
22	Yepang Liu (Assistant Professor)		Mechanics	Validation and Verification of AI Systems	Develop techniques to find defects in safety-critical AI systems such as autonomous driving vehicles.	liuyip1@sustech.edu.cn	https://yepangliu.github.io/		
23	Shuang-Hua YANG (Chair Professor)		Intelligent Manufacturing and Robotics	Cyber-Physical Systems Safety and Security	Investigate the safety and security risk prevention, assessment and intrusion tolerant control for Cyber-Physical Systems	yangsh@sustech.edu.cn			
24		Department of Mechanics and Aerospace Engineering	XIA, Keqing (Chair Professor)	Mechanics	Experimental and numerical studies of buoyancy-driven turbulent flows	We use buoyancy-driven flows as a platform to study various flow phenomena relevant to geophysical and astrophysical systems	xiaq@sustech.edu.cn	http://faculty.sustech.edu.cn/?tagid=x-iaq&orderby=-date&lang=en	
25	LIU Yijun (Chair Professor)		Mechanics	New approaches in computational aeroacoustics	Develop new computational methods for solving large-scale aeroacoustic noise prediction problems, by combining the CFD and fast integral equation methods	liuyj3@sustech.edu.cn	http://faculty.sustech.edu.cn/?tagid=liuyj and http://www.yijun-liu.com		
26	Lian-Ping Wang (Chair Professor)		Ph.D. in Mechanics	Development of mesoscopic computational methods based on the Boltzmann equation and their applications to turbulent flows, compressible thermal flows, and multiphase flows	Develop new computational fluid dynamics methods based on the Boltzmann equation, to solve complex flows such as multiphase flows and turbulent flows. Recent research publications from Wang's group can be found at http://research.me.udel.edu/lwang/publicationsPDF.html	WANGLP@SUSTECH.EDU.CN, LWANG@UDEL.EDU	http://faculty.sustech.edu.cn/profiles/wan-ghp/?lang=en , http://research.me.udel.edu/lwang/		
27	Wei Hong (Professor)		Mechanics	Mechanics of Smart Gels	Polymeric gels, consisting of crosslinked polymer swollen in a solvent, are smart materials responsive to various types of stimuli. The purpose of this research is to carry out combined experimental and theoretical study on the coupled multiphysics properties of smart gels, in order to understand the underlying mechanisms for interesting phenomena, and to enhance the performance of gel materials and gel-based devices.	hongw@sustech.edu.cn	http://faculty.sustech.edu.cn/?tagid=hongw&lang=en		
28	Yu LIU (Associate Professor)		Mechanics	Aeroacoustics, flow and noise control, fluid and acoustic testing techniques	Hybrid passive/active flow and noise control of bluff bodies; Noise reduction of aircraft slats, trailing edges, and wind turbine blades; Low-noise design for UAV propellers and fans; Phased microphone array design and acoustic source localisation.	liuy@sustech.edu.cn	http://faculty.sustech.edu.cn/?tagid=liuy&lang=en		
29	Hangyan Yuan (Associate Professor)		Mechanics	mechanics and control of soft/flexible robots	In this project, we study mechanics and control of soft and flexible robots, such as crawling snakes, flying birds, running cats, etc. We also design and fabricate these robots and test our mechanics models and controllers.	yuanhy3@sustech.edu.cn	https://mae.sustech.edu.cn/2019/academic_staff_0620/129.html		
30	College of Engineering		Department of Biomedical Engineering	HO CHUN LOONG (Assistant Professor)	Biology	synthetic biology & protein engineering	Professor Ho's research focuses on the use of synthetic biology and protein engineering to address a variety of health and environmental issues, including the creation of a platform that allows researchers to share and systematically collect genetic structures for protein engineering purposes.	hejl@sustech.edu.cn	https://www.sustech.edu.cn/en/hejunlong.htm?lang=en hclsynthetic.github.io http://faculty.sustech.edu.cn/?tagid=hejl&orderby=date
31		Mingming Zhang (Assistant Professor)		Mechanics	Intelligent Neurorehabilitation Robotics	His main research interests include flexible drive technology, intelligent control and human-computer interaction, wearable exoskeleton rehabilitation robots, and EMG/EEG based pattern recognition algorithms.	zhangmm@sustech.edu.cn	http://faculty.sustech.edu.cn/?tagid=zhangmm&orderby=date&lang=en	
32		Fangyi Chen (Associate Professor)		Physics, mechanics, biology	Synaptic hearing loss	Use molecular imaging, electrophysiology and animal behavioral method to investigate the synaptic damage of auditory sensory cells	chenfy@sustech.edu.cn	chenlab.bme.sustech.edu.cn	
33		Xingyu Jiang (Chair Professor)		Physics, mathematics, mechanics, biology	1. Microfluidics 2. Nanobiology and Medicine	1. Polymer Physical Chemistry 2. Polymer Biomaterials 3. Nanobiology and Medicine, 4. Drug Delivery 5. Tumor Therapy 6. Polymer Chemistry, 7. Nano Antibacterial Materials 8. Multifunctional Nano Anticancer Drugs	jiang@sustech.edu.cn	http://www.jiangxingyu.com	
34		Qiongyu Guo (Assistant Professor)		Biology	Functional biomaterials and drug delivery systems for interventional therapy	The main objective of this project is to develop novel functional biomaterials and drug delivery systems for interventional therapy, especially for tumor vascular embolization treatments such as liver cancer transarterial chemoembolization.	guoqy@sustech.edu.cn	https://www.sustech.edu.cn/zh/guo-qiongyu.html	
35		Quanying Liu (Assistant Professor)		Mathematics	Modelling Human Cognition and Decision Making	In this project, we will use machine learning tools to investigate human cognition and decision making. We aim to design state-of-the-art experimental tasks, record/analyze brain signals, and propose mathematical models to fit the behavior and brain data.	liuqy@sustech.edu.cn	http://bme.sustech.edu.cn/en/faculty/quanying-liu/	
36		Decheng Wu (Chair Professor)		Biology	Biomedical Hydrogels	To develop high-performance biocompatible hydrogels for biomedical applications in hemostasis, wound sealing, biosensing and soft tissue regeneration.	wudc@sustech.edu.cn	https://www.sustech.edu.cn/zh/wudecheng.html	
37		Dayong JIN (Chair Professor)		Physics, Biology	Develop the next-generation technologies for multi-functional hybrid biomaterials, rapid diagnostics, point-of-care sensing, targeted delivery systems and biomedical device engineering	Prof. Jin's research interests focus on transforming advances in photonics and materials into revolutionary biomedical technologies. His team in SUSTech will leverage multi-disciplinary sciences in instrumental physics, materials science, photonics, nanotechnology, molecular biology and engineering.	jindy@sustech.edu.cn	https://www.sustech.edu.cn/zh/jindayong.html	
38		Department of Biology		Wenfei JIN (Associate Professor)	Biology	Single cell precision medicine	Study tumor microenvironment by single cell sequencing, especially focus on tumor-associated Immune Cell	jinfw@sustech.edu.cn	https://bio.sustech.edu.cn/en/?p=4639
39				Andrew Hutchins (Associate Professor)	Biology	Role of transposable elements in regulating the three-dimensional structure of pluripotent stem cell chromatin	The most common types of DNA element in the genome are not genes, but transposable elements (TEs). TEs are a complex mixture of ~1200 distinct types of duplicating DNA, including ancient retroviruses. Only a few are still active, but they can copy themselves into other places in the genome, potentially disrupting oncogenes and tumor suppressors and can lead to cancer. In this project, we will explore the role of TEs in 3D chromatin organization using computational and experimental techniques.	andrewh@sustech.edu.cn	https://www.chrom-lab.org/
40	WEI Zhiyi (Associate Professor)		Biology	Structural study of adhesion GPCRs in neuronal development	1. Purifying adhesion GPCRs important for neuronal development and their complexes with drugs and G-proteins; 2. Determining structures of these GPCR and their complexes by using X-ray crystallography and Cryo-EM techniques; 3. Biochemically characterizing the related GPCR-mediated transmembrane signaling.	weizy@sustech.edu.cn	http://faculty.sustech.edu.cn/?tagid=weizy&lang=en		
41	School of Microelectronics	Hongyu Yu (Professor)	Physics	GaN Power and RF device	This project was mainly about the simulation and fabrication of GaN Power and RF device. Device simulation was completed by sivor or crosslight in our lab. The fabrication process included electron beam lithography, UV lithography, ICP, RTP, sputtering, Ebeam evaporation and device performance tests. GaN power and RF devices were applied in fields of electric automobile, power source, and 5G communication.	yuhy@sustech.edu.cn	https://www.sustech.edu.cn/en/yuhongyu.htm?lang=en		
42		Hao Yu (Professor)	Physics	IC design	Project 1: RFIC-design, This project is focus on developing high frequency RFIC design, especially on 5G IC design. Project 2: AI Algorithms and SOC design, this project is focus on research and develop energy-efficient data analytics accelerator based on CNN/BNN/TNN machine learning network SOC Project 3: DNA sequencing, This project is focus on research and develop DNA sequencing sensor	yuh3@sustech.edu.cn	https://www.sustech.edu.cn/en/yuhao.htm?lang=en		

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43	College of Engineering	School of Microelectronics	Huaiyu Ye (Associate Professor)	Physics	power device packaging	The purpose of this project is to develop packaging of power semiconductor devices, especially in third-generation semiconductors, design of material formulation, packaging structure, sintering process, etc. Through package integration and device module, third-generation semiconductor can be widely used in smart grid and new energy fields	yehy@sustech.edu.cn	https://www.sustech.edu.cn/en/yehuaiyu.html?lang=en ; https://sme.sustech.edu.cn/index/teacher/neye/id/52.html
44			Quan Pan (Assistant Professor)	Physics	High-speed IC system design	Train students to be expert in high-speed IC design, and implement new ideas and methodologies	panq@sustech.edu.cn	https://www.sustech.edu.cn/en/panquan.html?lang=en
45			Quan Chen (Assistant Professor)	Physics	EDA	1: EDA for emerging nanoscale devices and materials, including quantum physical models and machine learning techniques. 2: High-performance multi-physics EDA techniques for problems encountered in advanced IC design, including electromagnetic, electro-thermal and electro-mechanical analysis.	chenq3@sustech.edu.cn	https://www.sustech.edu.cn/en/chenquan.html?lang=en
46			Chenchang Zhan (Assistant Professor)	Physics	Power Management IC Design	Innovation and implementation of energy efficient and cost effective power management integrated circuits for advanced IoT applications.	zhanc@sustech.edu.cn	http://faculty.sustech.edu.cn/profiles/zhanc ; https://www.sustech.edu.cn/en/english-zhan-chenchang.html?lang=en
47			Kwai Hei Li (Assistant Professor)	Physics	GaN photonic integration	GaN material is an ideal platform for monolithic integration because GaN can provide three key functions of light emission, transmission, and detector at the same time. On-chip integration of GaN-based devices will be applied to visible light communication, sensor, and other advanced smart-lighting systems.	khli@sustech.edu.cn	https://www.sustech.edu.cn/en/lixiexi.html?lang=en
48			Fengwei An (Associate Professor)	Physics	Image processing, image recognition, machine learning, integrated circuits	The main research field is the design of low-power edge artificial intelligence chip based on computer vision, including image processing, image recognition, ultra-large-scale digital integrated circuit design and system integration of machine learning, and research and development experience in industry.	anf@ustech.edu.cn	https://www.sustech.edu.cn/en/anfengwei.html?lang=en ; https://sme.sustech.edu.cn/index/teacher/neye/id/35.html
49	Department of Ocean Science and Engineering	School of System Design and Intelligent Manufacturing	Jingshen Wu (Chair Professor)	Physics	Study the processing-morphology-property relationships of polymer and polymer composites/nanocomposite	To develop unique techniques for nanoparticle dispersion and distribution in viscous polymer matrices, examine the nano-structure of various polymer nanocomposites and disclose new fracture/toughening mechanisms associated in the fracture processes of polymer nanocomposites.	wujingshen@sustech.edu.cn	Prof. Wu's Webpage
Intelligent Manufacturing & Robot				Materials characterization and microelectronic package structure design, processing optimization and product reliability	Characterization and failure mechanisms study of microelectronic packaging materials; apply state-of-the-art technology (e.g., DfR or Machine Learning) for microelectronics packaging structural design, process optimization and product reliability improvement.			
Intelligent manufacturing and inspection system development				Utilize intelligent instruments and automated inspection technology to improve the process of data acquisition and intelligent status perception for traditional manufacturing industry, analyze collected data resource with Artificial Intelligence / Machine Learning tools for intelligent decision making in the technology process.				
50	Department of Ocean Science and Engineering		Chen, Yongshun John (Chair Professor)	Physics	Imaging the Earth's mantle in Southern Pacific		johnyc@sustech.edu.cn	
51			Zhang, Chuanlun (Chair Professor)	Ocean Sciences	Microbial oceanography of archaea	Ecology and physiology of	zhangcl@sustech.edu.cn	
52	Department of Earth and Space Sciences		Dikun Yang (Assistant Professor)	Physics	Fast 3D simulation and inversion of geophysical electromagnetic data	Development of next-generation highly scalable and parallelizable software for the 3D numerical simulation of electromagnetic data in exploration problems	yangdk@sustech.edu.cn	www.sustech-gem.cn
53			Wei Zhang (Professor)	Mechanics or Physics	Realtime Strong Ground Motion Simulation for China Region	This project shall combine our seismic wave numerical simulation method for topographic region with high performance computing technology to implement a realtime strong ground motion simulation system for China region.	zhangwei@sustech.edu.cn	https://ess.sustech.edu.cn/-/Case-detail-id-6.html
54			Jian Yang (Associate Professor)	Philosophy	Numerical simulation of inner magnetosphere	The project includes high-performance computing of the magnetosphere-ionosphere coupling, dynamical injections and space weather applications.	yangj36@sustech.edu.cn	http://faculty.sustech.edu.cn/profiles/yangj36
55			Xueyang Bao (Assistant Professor)	Physics or Mechanics	Joint inversion of gravity and seismic full-wave tomography using Ocean Bottom Seismographs	We will conduct a joint inversion of gravity and seismic full-wave tomography for lithospheric structures in eastern Pacific Ocean	baoxy@sustech.edu.cn	http://ess.sustech.edu.cn/-/Case-detail-id-52.html
56	Department of Mathematics	Alexander Kurganov (Professor)	Mathematics	Computational and Applied Mathematics- Development of Modern Numerical Methods for Nonlinear Hyperbolic PDEs and Related Problems	The research will focus on the development of new finite-volume methods, deterministic particle methods, and hybrid finite-volume-particle methods for a variety of hyperbolic systems of conservation and balance laws such as compressible Euler equation of gas dynamics (including multi-component, multi-phase and reactive ones) and different shallow water and related models (including multi-layer shallow water equations, sediment and pollution transport models as well as models of tsunami and tropical cyclone propagation).	alexander@sustech.edu.cn	https://math.sustech.edu.cn/c/kurganovalexander	
57	College of science	Department of Physics	Li Huang (Associate Professor)	Physics	Computational studies of low dimensional quantum materials	Computational design of 2D ferromagnetic/ferroelectric materials	huangl@sustech.edu.cn	https://huangl7.wix-site.com/ccmg
58				Computational studies of novel energy materials	In close collaboration with experimental groups, the projects in this area provide mechanistic understanding of structure-properties relationships in thermoelectric (TE)/photovoltaic/solid electrolyte materials, especially the defect physics in such systems.			
59			Oscar Dahlsten (Associate Professor)	Physics	Theoretical Physics	Quantum Information Theory Information Thermodynamics Energy Harvesting Quantum Machine Learning Foundations of Quantum Theory	dahlsten@sustech.edu.cn	https://phy.sustech.edu.cn/index.php?s=/Show/index/cid/45/id/498.html
60			Ke XIA (Professor)	Physics	Spintronics	Quantum transport theory, Spintronics artificial brain computation, Calculation method of electronic structure	xiak@sustech.edu.cn	http://sigse.sustech.edu.cn/In-dex/staff_detail/mid/58/id/377
61			Leonardo Modesto (Associate Professor)	Physics	Classical and Quantum Gravity, String Theory, and Cosmology	1) Nonlocal Quantum Gravity (NLQG). 2) Local Lee-Wick Quantum Gravity (LWQG). 3) Super-renormalizable or Finite completion of the Standard Model of Particle Physics (SRS or FSM). 4) Black hole physics. 5) Cosmology.	lmodesto@sustech.edu.cn	https://lmodesto2.wix-site.com/lmodesto
62	Chun-Yu HO (Associate Professor)	Biology	Catalytic alkenylation and polymerization	Development of new methods for alkenylation, polymerization and applications	jasonhcy@sustech.edu.cn	https://grubbsinstitute.sustech.edu.cn/Join-detail-id-30.html		
63	Department of Chemistry	Rui Hao (Assistant Professor)	Biology	Nano-Electrochemistry and Nano-Electroanalysis	Developing new tools for high spatiotemporal imaging of nanoscale electrochemical processes and interfaces; Developing new electrochemically based methods for detection and analysis of single ions, atoms, molecules and nanoparticles; Developing new strategy for brain-machine interface	haor@sustech.edu.cn	https://scholar.google.com/citations?hl=zh-CN&user=-1_Zd6wAAAAJ	
		Zhong-Ren Chen (Chair Professor)	Mechanics, Engineering	Polymer Chemistry and Physics- Polymer Materials and Chemical Engineering	1. Organometallic chemistry 2. Polymerization catalysts 3. Macromolecular reaction engineering 4. Polymer physics and rheology 5. Self-assembly and multi-scale processing 6. Interfacial science and adhesion 7. Failure mechanism and crack propagation of soft materials	chenzr@sustech.edu.cn	https://www.sustech.edu.cn/zh/chenzhongren.html	