SCHOOL OF ENVIRONMENT

南方科技大学
环境科学与工程学院

宣传册设计风格初稿
SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF ENVIRONMENT

南方科技大学
环境科学与工程学院
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Overview

The School of Environment was founded in May 2015, in response to the strategic development needs of environmental protection in China. The Founding Dean, Prof. Chunmiao Zheng, is a world-renowned expert in groundwater research. The current Dean of the School is Professor Xin Yang, a well-known expert in the field of atmospheric chemistry and air pollution. The School has focused on conducting cutting-edge research and cultivating talents in water resources and water quality, soil science and remediation, air pollution control, industrial ecology, global environmental change, and related areas. In addition, the School is developing advanced technologies for water treatment, desalination, energy saving and emission reduction, and environmental remote sensing, in order to meet the urgent needs of the society.
DEVELOPMENT OBJECTIVES
学院发展的中长期目标

我国环境科学与工程领域拔尖创新人才的培养基地
A leading school for training and cultivating future talents and the next generation of leaders in the field of environmental science and engineering;

环境领域世界级的科学研究中心
A world-class environmental science research center;

先进环保技术研发与产业化
A national platform for development and commercialization of advanced environmental technologies.
Chair Professor, Ph.D., Hong Kong University of Science & Technology. Distinguished Professor by Ministry of Education of China, State Council Expert for Special Allowance. Dr. Yang’s research interests include physical and chemical properties of atmospheric aerosol and their impacts on human health and global climate, urban air quality, instrument development, and environmental analysis. He is author or co-author of over 160 peer-reviewed journal papers.

Zheng Chunmiao

Chair Professor, Ph.D., University of Wisconsin-Madison. Fellow of the American Geophysical Union (AGU) and the Geological Society of America (GSA). Prior to his current appointment, he was Chair Professor and Director of the Institute of Water Sciences at Peking University, and the George Lindahl Endowed Research Professor at the University of Alabama. His research interests include groundwater contaminant transport and remediation, basin-scale ecohydrologic processes, and impacts of global change and emerging contaminants on water sustainability. He is the developer of the MT3D/MT3DMS series of contaminant transport codes used in over 100 countries, and author or co-author of over 350 SCI papers and 6 books with over 15,000 citations on Google Scholar. He was awarded the Bird-Dissel-Dressel Distinguished Lectureship (2009) and the O. E. Meinzner Award (2013) by the Geological Society of America, and the John Hem Award (1998) and the M. King Hubbert Award (2013) by the National Ground Water Association (USA). He was also recipient of the Distinguished Alumnus Award (2014) from the Department of Geosystems, University of Wisconsin-Madison.
张东鹏  ZHANG Dongxiao

Chair Professor, Ph.D., University of Arizona. He is a Member of the U.S. National Academy of Engineering, provost and vice president for academics of Southern University of Science and Technology. He is also an Honorary Member of the Society of Petroleum Engineers, and a Fellow of the Geological Society of America, and recipient of Distinguished Young Scholars by National Natural Science Foundation of China. He has served as the Gordon S. Marshall Chair Professor at the University of Southern California, the dean of the College of Engineering of Peking University, and the executive vice dean of the Graduate School of Peking University. He has also served concurrently as the secretary-general of the Association of Chinese Graduate Schools, director of the Liberal Arts and Science Committee, and deputy director of the Evaluation Council of the Chinese Society of Academic Degrees and Graduate Education. Professor Zhang’s research areas include energy and environment, and his research achievements in stochastic modeling, numerical simulation, inverse modeling and machine learning are widely adopted by his peers. He has published more than 220 academic papers, and Stochastic Methods for Flow in Porous Media is a representative work in the field. He has been an associate editor for 8 internationally renowned journals, and presided 7 national projects including National Science Fund for Distinguished Young Scholars and other key programs. He supervised 33 PhD students and 53 M Sc. students.

陶澍  TAO Shu

Chair Professor, Ph.D., University of Kansas. Professor Tao is a member of the Chinese Academy of Sciences, a member of the National Steering Committee on Eco-Environmental Protection, and a member of the National Steering Committee on Environmental Health. His current research interests include global emission inventories of various air pollutants, atmospheric transport and population exposure modeling, household air quality, and policy evaluation. He has more than 200 papers published in peer-reviewed international journals, including four in PNAS, one in Nature Energy, and many in Environmental Science & Technology with total citation around 22,000 and h-index (Web of Science) of 80.

刘俊国 LIU Junguo

Chair Professor, Ph.D., Swiss Federal Institute of Technology in Zurich (ETH-Zurich). Member of Academia Europaea. His main research interests include hydrology and water resources, and ecological restoration. He has led a pioneering work on advancing water resources assessment in coupled human-natural systems, in particular for global hydrology research and water scarcity assessment by incorporating water resources quantity, quality and environmental flow requirements. He introduced the three-dimensional (3D) water scarcity theory, and the stepwise ecological restoration theory. He founded two ecological restoration organizations in China: The Society for Ecological Rehabilitation of Beijing (SERB), and the Union of Societies for Ecological Restoration and Environmental Protection (USEREP). Prof. Liu is author of 7 books and over 320 publications, including articles in Science (2), Nature (2), PNAS (3), Nature Climate Change (3), Nature Communications (2), Nature Sustainability (2), and Science Advances (1).

刘俊杰 LIU Chongxuan

Chair Professor, Ph.D., Johns Hopkins University, Fellow of the Geological Society of America (GSA). His research focuses on the multi-scale kinetics of the transformation, degradation and transport of contaminants in groundwater and soil systems; the coupled evolution of microbial community and biogeochemical processes; and the technologies for remediating contaminants in soil and groundwater systems, and the synthesis of engineered materials for extracting heavy metals from wastewater. He has 50+ publications (over 2350 citations, H-index 15) in internationally renowned journals. He is an Associate Editor of ACS Earth and Space Chemistry.


**Professor:** Ph.D., Imperial College London, UK, State Council Expert for Special Allowance. She has more than 30 years of research and working experience in ecological and environmental protection areas. She received the China top-tier Awards of National Science and Technology Progress Award (2017); The prize of Environmental Protection Science and Technology Award Ministry of Ecology and Environment (2013); IBM Faculty Award (2016). Professor Fu's career has spanned academia, industry and social sector. Through decades of dedication to academia and the community, Professor Fu has a great recognition and appreciation of her professional, educational and social networks. She was a member of the Stockholm Water Prize Nominating Technical Committee/ Lee Yuan Ye Water Prize Nominating Committee/ International Water Congress & Exhibition Program Committee. She has been working with World Bank and Asian Development Bank since 1999.

**Professor:** Ph.D., Harvard University. Prior to her current appointment, Fu was Associate Professor and "Bairn" Professor in the Department of Environmental and Biological Sciences, and Assistant Professor in the Department of Civil and Structural Engineering, Hong Kong Polytechnic University. Her research interests are in air pollution, global and regional atmospheric chemistry, and chemistry-climate interactions. Research topics include organic gases and organic aerosols, tropospheric ozone, climate-air quality interactions, climate change, remote sensing of atmospheric composition and greenhouse gases, range transport, and air exchange of organic compounds. Fu has authored or co-authored more than 40 SCI peer-reviewed papers. She has won the National Natural Science Foundation of China Outstanding Young Scientist Fellowship, the National Natural Science Foundation of China Excellent Young Scholar Award, and the Excellence Award of the Ministry of Education, Science and Technology, and the Second Prize of National Science Award of Ministry of Education.
Luke Gibson
Associate Professor, Ph.D., National University of Singapore. Prior to his current appointment, he was Research Associate Professor at the University of Hong Kong. His research expertise encompasses fragmentation, green energy, wildlife trade, and animal migration, centered in China but extending across Southeast and East Asia. His research has been published in Science and Nature. Among other awards, he received the Wang Gungwu Medal & Prize and the World Future Foundation PhD Prize in Environmental and Sustainable Research.

史海匀 SHI Haiyun
副教授，清华大学博士，曾在香港大学从事博士后/高级研究助理工作，获香港学者奖（2014年)，深圳市海外高层次人才（2014年），主要研究方向为数字水文.水资源、气候变化.水文水文学及气候模型.国际合作研究.水文水资源环境保护等。2017年春季第28届中国气象学会学术年会优秀科研论文奖。目前担任AGOS（Asia Oceania Geosciences Society)年史文理科学硕士学位论文评选委员会第一审评委。目前在清华大学从事博士后研究

王钟毅 WANG Zhongyi
副教授，美国南加大博士，先后在澳大利亚工程院Robert Hurley教授和加拿大大学宾夕法尼亚州立大学Ikaia Mak教授课题组从事博士后研究工作，在环境化学、环境科学与技术、环境生态学、环境经济与政策等多个领域取得显著成绩。

詹勇 TANG Yuyuan
副教授。香港大学博士，研究方向包括海洋环境化学及资源、海洋生态环境评估及环境变化等，主持及参与多项研究项目，获得国家自然科学基金、深圳市重点基金、深圳市海洋科学发展基金、深圳市重点青年基金等，主要研究方向为海洋环境化学及资源、海洋生态环境评估及环境变化等。

曾振 ZENG Zhongheng
副教授。北京大学博士，曾在美国南加大博士后研究。获2018年IPCC第六次评估报告主报告的共同重要评估者，目前担任Nature、Science等重要期刊和会议论文评审人。研究领域涵盖中国西南地区水文过程、全球气候变化和生态系统响应，致力于中国西南地区水文过程和全球气候变化的综合研究。

詹勇 TANG Yuyuan
Professor, University of Hong Kong. Dr. Tang’s research interests include the pollution prevention and resource recycling of solid wastes, and the environmental behavior of plastic wastes. She has been granted by 16 research projects, including NSFC, Guangdong Provincial Science Fund for Distinguished Young Scholars, etc. Dr. Tang has published 73 SCI journal articles, 54 published as corresponding author, 5 highlighted as front cover, 33 highly cited papers, 2 books and 1 hot paper. She has also published more than 60 oral talks and displayed her work at 16 patents. Dr. Tang organized “Guangdong-HK Environmental Materials Workshop in 2015”, and has been invited as keynote speaker and session chair by several international conference committees. She also gave numerous awards, including “Youth Award of Guangdong Environmental Science Society”, “Outstanding Researcher of Shenzhen Ocean & Environment”, “Overseas High-Caliber Professor of Shenzhen”, “Outstanding Paper Award for Engineers/Researchers” as well as “Young Professor of the Year”, “Excellent Research Award”, “Excellent Teaching Award”, and “Outstanding Mentor Award” of SUSTech.
Assistant Professor. He received his Ph.D. degree and Ph.D. degree from Peking University. Before he joined SUSTech, he was a post-doctoral researcher at Georgia Institute of Technology. His research interests include development of regional and global emission inventories of air pollutants, air quality modeling, integrated assessment of population exposure & health and their driving forces. He has published more than 100 papers in peer-reviewed journals including Nature Climate Change, Science, Science Advances, PNAS, Nature Communication, Human Nature Behaviour, One Earth, Environmental Science & Technology, Environmental International, etc., with the total citation of 5000 and h-index of 42.

Assistant Professor. Dr. Jianguan obtained his PhD degree from the University of Toronto. He worked as a Postdoctoral Fellow at Harvard University during 2017-2021. Dr. Ye joined SUSTech as an Assistant Professor in June 2021. His main research interests include air pollutant chemical sensing, air pollution formation mechanisms, and physicochemical characteristics and health effects of air pollutants. Dr. Ye has published more than 40 papers in internationally renowned journals such as PNAS, Nat Comm. Environ. Sci. Tech., Atmos. Chem. Phys. Geophys. Res. Lett. He was awarded with the Camille & Henry Dreyfus Postdoctoral Fellow (2017), the Fifteenth Atmospheric Chemistry Colloquium for Emerging Senior Scientists (ACCESS XV, 2019), and NSERC Postdoctoral Fellow (2020, Top 1 in Earth Sciences). Dr. Ye serves as reviewer for over 50 high level environmental journals including Environ Sci. Tech., Atmos. Chem. Phys., Sci. Total Environ., and Environ. Pollut. He is the Co-Chair of the 2022 Gordon Research Seminar on Biogenic Hydrocarbons and the Atmosphere.
张斌田  ZHANG Bintian

Assistant Professor, Ph.D., Chinese Academy of Sciences. His research focuses on the development of biosensors and their applications in environmental monitoring and molecular toxicology study. He holds 5 patents and has published over 20 peer-reviewed papers, including first-author papers in PNAS, JACS, ACS Nano, Nano Lett., etc. His studies on protein condensates were reported by over 10 international media such as AAAS and generated significant academic impact.

梁凤超  LIANG Fengchao

Assistant Professor (invited), Beijing University of Chemical Technology, Nanfang science and technology university, and he is a member of the environmental science and environmental science research group. His research focuses on the development and application of environmental monitoring and molecular toxicology study. He holds 5 patents and has published over 20 peer-reviewed papers, including first-author papers in PNAS, JACS, ACS Nano, Nano Lett., etc. His studies on environmental monitoring and molecular toxicology study were reported by over 10 international media such as AAAS and generated significant academic impact.

教学系列 TEACHING FACULTY

史红江  SHI Jiangong

Teaching Professor, Ph.D., Tsinghua University. His research focuses on the environmental behavior, risk assessment and control technology system of endocrine disruptors. He has presided over more than 40 research projects including the National key research and development program, NSFC and enterprise cooperation projects. He published 61 papers (SR2 for single highest citation). He has been granted 12 invention patents in China and Japan, published 2 textbooks and 1 software copyright. She won the third prize of Shandong Science and Technology Award (ranking first). She undertakes 5 teaching courses including Environmental impact assessment, Environmental behavior and risk assessment of pollutants etc.

王扬  WANG Yang

Teaching Associate Professor, Ph.D., University of Waterloo. Member of APA. She has rich experience in both project implementing and teaching in urban planning and environmental design areas as she worked for the City Calgary, Canada and taught at the Peking University, China.

张幼军  ZHANG Youkuan

Research Professor, University of Arizona, USA. His research focuses on the development of biosensors and their applications in environmental monitoring and molecular toxicology study. He holds 5 patents and has published over 20 peer-reviewed papers, including first-author papers in PNAS, JACS, ACS Nano, Nano Lett., etc. His studies on protein condensates were reported by over 10 international media such as AAAS and generated significant academic impact.

易树平  YI Shuping

Teaching Professor, Ph.D., University of Pernambuco, Brazil. His research focuses on the development and application of environmental monitoring and molecular toxicology study. He holds 5 patents and has published over 20 peer-reviewed papers, including first-author papers in PNAS, JACS, ACS Nano, Nano Lett., etc. His studies on environmental monitoring and molecular toxicology study were reported by over 10 international media such as AAAS and generated significant academic impact.

田辰  TIAN Zhan

Research Professor, Ph.D., Chinese Academy of Sciences. He has more than 15 years of working experiences in climate change impacts analysis, and adaptations and mitigation strategies design and implementation. He was awarded the outstanding Scientific Achievement Award by the National Natural Science Foundation of China (2018) and the National Social Science Foundation of China (2017). He has published over 50 research papers in international journals such as Climatic Change, Environmental Research Letters, and Global Change Biology. His current research interests focus on the assessment of adaptation and mitigation measures and the impacts of climate change on China’s agriculture ecosystem and city flooding.
宋兰 SONG Lan

Research Associate Professor & Associate Dean of Shenzhen Institute of Sustainable Development, obtained Ph.D. from Leiden University. Marie Curie Scholar, Recipient of Danish Government Full Scholarship. Former publisher of Elsevier in the Netherlands, fully responsible for a dozen SCI journals in the area of environmental science and engineering. Main research areas include ecological civilization and urban sustainable development, environmental risk assessment and management of emerging pollutants. Currently, she has published more than 30 articles in international journals.

李伟怡 LI Weiyi

Research Associate Professor, received PhD from the University of Cincinnati (USA) and Research Fellow at the Singapore Membrane Technology Centre. His research focuses on membrane technology and is aimed at applying advanced characterization techniques to the development of environmentally friendly membranes and membrane-based processes. He has worked as a project manager of several funded research projects (including NSFC programs) and has published a series of academic articles in high impact journals in the fields of water treatment, environmental engineering, and others.

李三百 LI Sanbai

Research Associate Professor, obtained PhD from Peking University. He was a Postdoctoral Research Fellow at the University of California Irvine. His expertise centers around gas/liquid fluid driven fracture propagation, efficient development of unconventional resources (geothermal energy, tight/oil sand oil, gas hydrate, coal-bed methane, etc.), and geological sequestration of carbon dioxide. He has published 10+ peer-review, high-impact papers in top journals, including SPE Journal, Water Resources Research Journal, Journal of Geophysical Research: Solid Earth and Geophysical Research Letters. He currently serves as an associate editor of SPE Journal.

姜继平 JIANG Jiping

Research Associate Professor, received PhD from Harbin Institute of Technology. He was a Postdoctoral Research Fellow at the University of New South Wales, Australia. His research interests include nonlinear system analysis on water environment and data centric knowledge innovation, hydro-informatics for urban water environmental management with advanced environmental models, algorithms, software and hardware development, and DSS integration. Committee member of IWA-WQP China Chapter.

刘鑫 LIU Xin

Research Associate Professor. Ph.D in Environmental Engineering from Nanyang Technological University (Singapore). Dr. Liu's research focuses on novel membrane fabrication, membrane fouling and characterization with advanced optical techniques, applications of nanomaterials in membrane fabrication, and membrane separation processes for desalination and water reuse. His work has yielded >35 peer-reviewed journal papers (citation: ~820, h-index: 15).

田勇 TIAN Yong

Research Associate Professor, obtained PhD from Huazhong University of Science and Technology. He worked as a postdoctoral research fellow in the Institute of Water Sciences at Peking University. His research interests include ecohydrology, numerical simulation of hydrodynamics and water environment, and GIS/RS applications in hydrology and water resources. He has obtained funding for over 6 research projects, including NSFC, the National Key Research and Development Program of China, etc. Dr. Tian has published more than 40 SCI journal articles, including Water Research and Environmental Modelling & Software. He has also applied 7 software copyrights.

王学静 WANG Xuejing

Research Associate Professor, obtained PhD from China University of Geosciences (Beijing). He received the SUSTech Presidential Postdoctoral Fellowship in 2016. His major research interests include submarine groundwater discharge (SGD) and the environment of coastal groundwater flow and the associated chemical transport. He has led and participated in more than 10 national or municipal research projects, including Natural Science Foundation of China (NSFC), 973 Program and Natural Science Foundation of Shenzhen, etc. He has published over 30 academic papers in high impact international journals such as Water Resources Res., Geochim. Cosmochim. Acta, etc. and has received one invention patent. He has served as reviewer for over 10 SCI journals.

韩峰 HAN Feng

Research Associate Professor, obtained PhD from Harbin Institute of Technology. His research mainly focuses on the numerical simulations of ecological, hydrological and water quality processes at the watershed scale, including developing new watershed models, designing new model-data fusion methods (such as Bayesian analysis, data assimilation and optimization algorithm) and applying the new models or methods to foreign and domestic basins. Dr. Han has participated in more than 10 research projects. He has published more than 30 SCI journal papers in the fields of hydrology, water resources and environmental science.
YAN Feng
Research Associate Professor, Ph.D. of Tsinghua University. His focus is on the high-value utilization of solid waste and CO2 capture, including recycling and reuse of industrial solid waste. He has published 55 journal papers in the field of environmental engineering and has applied for 23 Chinese invention patents and 3 international PCT patents.

CHEN Xunwen
Research Assistant Professor, Hong Kong University of Science and Technology. Dr. Chen's research interests include: 1) the mechanism of plant-microbe interactions under stress; 2) ecological restoration of degraded lands (e.g., landfills and filled slopes) in urbanized areas; and 3) the effects of biotic factors on soil physical stability (e.g., slope failure problems). Dr. Chen is the principal investigator of projects funded by the National Natural Science Foundation of China (NSFC) and the Education Department of Guangdong Province, China. He has published 32 journal articles and serves as the Associate Editor of Environmental Geochemistry and Health (JCR Q1).

YUAN Xiaofei
Research Assistant Professor, Japan. He obtained his Ph.D. from University of Tokyo and worked as a postdoctoral researcher in the University of Tsukuba, Japan. His scientific interests include single-cell analysis based on microfluidics, development of biosensors based on microfluidics and/or functional microprobes, and detection of aquatic environmental contaminants and microbes. Currently, he has got two abroad-authorized patents and over 450 times citation for his papers.

Li Xiang
Research Assistant Professor, West Virginia University, United States. His main research interests include developing and applying microbial source tracking methods, studying the environmental microorganisms and associated antibiotic resistance gene transfer, and metagenomics, etc. Dr. Li has published his research in prestigious journals such as Water Research, Environmental Science & Technology, and Chemical Engineering Journal.

Narendra Singh
Research Assistant Professor, Ph.D. of Tsinghua University. His research work focuses on the recycling of waste electronics, life cycle analysis, and developing techniques for the recovery of precious and critical metals from waste streams. He has published numerous SCI papers in the field of environment and ecology journals including Environmental Science & Technology, International Journal of Hazardous Materials, Journal of Cleaner Production, and Waste Management. He also serves as an editorial board member of the "Journal of Health and Environmental Research" and "Seminari Journal of Multidisciplinary Studies".

CHOI Chi-Yeung
Research Assistant Professor, NUS. His research area is in environmental science, focusing on the development of new technologies for waste management and recycling. He has published over 50 SCI papers in international journals.

LONG Xin
Research Assistant Professor, University of Chinese Academy of Sciences. His research focuses on the development of new technologies for waste management and recycling. He has published over 50 SCI papers in international journals.

Qi Wei
Research Assistant Professor, Dalian University of Technology, China. His research focuses on global and regional hydro-climatic events and their socio-economic impacts. His work is based on novel mathematical approaches and data analysis.

Zhang Nan
Research Associate Professor, University of Chinese Academy of Sciences. His research focuses on the development of new technologies for waste management and recycling. He has published over 50 SCI papers in international journals.
索红日 SUO Hongri

Research Assistant Professor, Ph.D., Jilin University. She worked as a Postdoctoral Research Associate at the Chemistry department of University of Oxford (PROJECT: SCG-COE & Wolfson Catalyst). In the meantime she is a member of Holwell Matar at Balliol College of Oxford. Her research focuses on the design and synthesis of nanomaterials for catalyst and sorbent. Now, she is working on catalysis materials synthesis for waste water/organic pollution degradation, and Data-Driven, Machine Learning approach for materials design and optimization.

Michele Lancia

Research Assistant Professor, Ph.D., University of Cassino and Southern Lazio. He worked as postdoctoral research fellow in SUSTech during the period 2017-2019. He is a Geologist and Geo-engineer with skills and expertise in: Groundwater Dynamics, Urban Hydrogeology, Field Investigations, Geomorphology, Active Tectonics and Geothermal Energy.

郭芷琳 GUO Zhilin

Research Assistant Professor, University of Arizona. Postdoc, University of California-Davis. Research interest (1) Numerical modeling on groundwater flow and contaminant transport; (2) Contamination site remediation modeling; (3) Upscaling study on regional-scale contaminant transport modeling; (4) Groundwater risks under changing environment.

曾甘泉 MAO Ganquan

Research Assistant Professor, Ph.D. from University of Augsburg, Germany, postdoctoral from Southern University of Science and Technology. Early career research includes large-scale hydrological model development and application, water shortage assessment and extreme hydrological event risk adaptation based on virtual water theory, etc. He has developed a large-scale distributed hydrological model: WAVES, he has published 27 academic papers, published 1 monograph, obtained 2 software copyrights, and served as the contributing author of the sixth IPCC assessment report.

贤玉琳 BEN Yujie

Research Assistant Professor, PhD of Environmental Geography from Peking University, postdoctoral fellow at Southern University of Science and Technology. Research areas include analysis of trace pollutants in the environment, impact of human exposure to environmental pollution on intestinal flora, and human health risk assessment of environmental pollution. Published 17 academic papers in many internationally renowned authoritative journals including Water Res., Environ. Sci. Technol. and Environ. Pollut.

肖凯 XIAO Kai

Research Assistant Professor, Ph.D., The Hong Kong University of Science and Technology. His research focuses on the assessment of the health and ecological risks of emerging contaminants, degradation of organic pollutants and inactivation of pathogens by advanced oxidation process, risk assessment of contaminated soil and groundwater, and solution of environmental problems based on big data and AI technologies.

尹晓光 YIN Xiaoguang

Research Assistant Professor, Ph.D., Utrecht University, postdoc Tsinghua University. His research focuses on multiscale modelling, simulation and optimization of multiphysics/chemical processes including: (1) Multiphysics in porous electrode of Li-ion batteries during manufacture and operation; (2) Li deposition mechanism and Li dendrite mitigation in Li-metal batteries; (3) Application of machine learning models to multiphysics; (4) Modelling and simulation of multiphase flow in porous media (direct simulation and pore-network modelling).
## Ruihua DUAN Yanhua

Research Assistant Professor, Ph.D., China University of Geosciences (Wuhan). She studied at Stanford University during 2014 to 2015 as a visiting graduate student and researcher. Her research focuses on groundwater contamination, especially on genesis of native poor-quality groundwater and migration/transformation of contaminants in heterogeneous aquifers.

## Kai WANG

Research Assistant Professor, Ph.D. of the University of Alberta, Canada. Postdoctoral Researcher of SUSTech. His research focuses on complex water resource systems modelling and Integrated Water Resources Management (IWRM). Most of his work develops water resources simulation models using system dynamics and applies them in drought management and decision making, water resources planning and policy analysis, and quantification of resource nexus and trade-offs.

## Kesai KE Chen Kewei

Research Assistant Professor, University of Utah. His research interests include: (1) Hydrogeological and environmental aspects of groundwater recharge and contaminant transport; (2) Geophysical methods for groundwater exploration and environmental monitoring.

## Fang YAN Linfeng

Research Assistant Professor, Ph.D. ETH Zurich. His research interests include: (1) Rheometrical triggering mechanisms of rainfall-induced landslides and associated environmental impacts at catchment to global scales; (2) Chain effects of 'climate change - permafrost degradation - hydrological response - natural hazards - carbon emission' in cold regions (e.g., the Qinghai-Tibet Plateau).

## Xu Peng XI

Research Assistant Professor, Ph.D., Peking University and University of Illinois at Urbana-Champaign. He was a postdoctoral researcher of SUSTech during 2018-2020, and received the SUSTech Presidential Postdoctoral Fellowship in 2019. His research mainly focuses on the fields of agricultural carbon and nitrogen cycling, global environmental change and the simulation and optimization for watershed's agricultural and urban non-point source pollution control. Dr. Xu has published 33 peer-reviewed papers in various journals, including Geophysical Research Letters, Atmospheric Chemistry and Physics, Agricultural and Forest Meteorology, Journal of Cleaner Production, and 2 professional books.

## Junliang ZHAO

Research Assistant Professor, Ph.D. in Mechanics (Energy and Resources Engineering) at Peking University. He was a Research Associate of College of Engineering at Peking University. His research focuses on the development of unconventional oil and gas, including (1) Multiscale mechanical characterization of geological materials, (2) Micromechanics of composite material, and (3) Digital rock methods and applications.
马云杰 MA Yunjie

Research Assistant professor, Ph.D in Environment Engineering, Technical University of Denmark. The research focuses on environmental biotechnology in water pollution control, including microbe-mediated carbon and nitrogen cycles, the biotransformation and migration of micropollutants, and the microalgal process modeling and metabolism study. Dr. Ma has led and participated in the Youth program of Natural Science Foundation of China, the international programs of Danica Fellowship Center, etc.

杜二虎 DU Erhu

Research Assistant Professor, Dr. Du earned his Ph.D in Environmental Engineering, University of Illinois at Urbana-Champaign. Dr. Du is interested in interdisciplinary studies based on complex systems. His recent research directions include integrated surface water-groundwater modeling, big data and environmental informatics, water economics and policy analysis, flood management, and epidemic transmission and control.

马恩泽 MA Enze

Research Assistant Professor, Ph.D. of University of Le Havre Normandy. He worked as postdoctoral research fellow in SUSTech during the period 2013-2021. Research areas: 1. Modelling of colloids and colloidal transport in porous media; 2. Hazardous vapor intrusion into building; 3. Greenhouse gas emission from subsurface and surface water.

范典 FAN Dian

Research Assistant Professor, Ph.D in Petroleum Engineering, Texas Tech University, the USA. Prior to his hire at SUSTech, Dr. Fan worked as a Postdoc Research Associate at University College London, the UK. His research focuses on multi-scale theoretical and numerical studies of the transport of fluids and micro/nano-particles in geological media. His work applies to micro-nano-particles removal, sand control in hydraulic fracturing and oil & gas processes, as well as proppants design in hydraulic fracturing.

董峰 DONG Feng

Research Assistant Professor, Ph.D of University of Birmingham. His research interests include: 1) biogeochemistry of heavy metals; 2) nanomaterial transport and transformation in natural environments; and 3) environmental toxicology. His research explores the environmental microbiology and interactions of bacteria with contaminants in their geochemical environments.

罗思媛 LUO Siyuan

Research Assistant Professor, Ph.D., Leiden University. The Netherlands. Dr. Luo’s PhD research interests focus on the electrochemical synthesis of transition metal-organic compounds. Her current research mainly lies on the exploration of novel metal-organic nano-materials and their applications in environmental science, including: 1) Porous materials for selective aqueous ion removal; 2) carbon dioxide electroreduction to multi-carbon products; 3) Selective electrolytic oxygen reduction and its environmental application.

徐晓龙 YU Xiaolong

Research Assistant Professor, Ph.D., Kyoto University. Postdoctoral fellow of Nankai University and SUSTech. Dr. Yu’s research focuses on biological wastewater treatment (anammox, microbial immobilization, regulation on biofilm formation), adsorption and biodegradation of pollutants.

熊勇 XIONG Ying

Lab Specialist, Senior engineer, Lab specialist, Ph.D., Xiamen University. She worked as a postdoctoral researcher on environmental engineering in Peking University. Her research focuses on high performance membrane materials and its application on water and wastewater treatment, Water and wastewater treatment technology. She is now responsible for environmental science and engineering undergraduate experimental teaching.
罗树生 Luo Shusong

Luo Shusong graduated from Shantou University of China in 2005 and completed his Ph.D. degree from SUNYAT-SEN University in 2010. Dr. Luo currently serves as an engineer in Southern University of Science and Technology. Prior to his current position, he worked as a postdoctoral research fellow at South China Agriculture University until August 2013. His research focuses on the biodegradation of Polycyclic Aromatic Hydrocarbons (PAHs) and the environmental fate of PAHs metabolites, which is financially supported by the project of national Natural Science Foundation of China for young scholars. Dr. Luo was elected as a reserve talent by the program of “Shenzhen High-Level Talent Plan” in 2014.

张琼 Zhang Juan

Zhang Juan obtained a master’s degree in 2014 at materials science and engineering from Beijing University of Science and Technology, and qualified the title of Testing and Instrumentation Engineer in 2018. She majors in the operation, maintenance and application analysis of the X-ray Photoelectron Spectroscopy and Scanning Electron Microscopy. At the same time, she is responsible for the management and maintenance of the website of the instrument sharing management platform, and the daily affairs and publicity of the public research platform of the School of Environmental Science and Engineering.

于凯 Yu Kai

Yu Kai obtained a master’s degree in Geosciences (Wuhan). Dr. Kai Yu manages the instruments for environmental tracing studies such as gas isotope ratio mass spectrometer. His research focus on (1) Technology of environmental stable isoetope analysis; (2) Stable isotope geochemistry.

施诗 Shi Shi

Shi Shi received her bachelor’s and master’s degree from School of Materials Science and Engineering, University of Science & Technology Beijing, and Ph.D. degree in Materials Science from Hokkaido University in 2015, after then a postdoc in UW-Madison. Dr. Shi currently works as an engineer in School of Environmental Science & Engineering, managing ESEM and optical instruments. Her research interests include synthesis and analysis of functional materials, high-resolution electron microscopy and in-situ microscopy.
人才培养目标
Educational Goal

人才培养目标
Educational Goal

本科生科
Undergraduate Programs

水文与水资源工程
Hydrology and Water Resources Engineering

The School currently has two undergraduate majors approved by the Ministry of Education: the Environmental Science and Engineering Major, which is an Advanced Key Discipline in Guangdong Province, and was elected as the “Double Ten Thousand” plan for the first-class undergraduate major construction in Guangdong Province, and the Hydrology and Water Resources Engineering Major. Undergraduate education focuses on laying a solid foundation of professional knowledge while emphasizing innovation in engineering science. Both undergraduate majors have their specialties: the Environmental Science and Engineering Major specializes in resource-environmental-socioeconomic system coupling and targets emerging environmental industries, environmental products and environmental services. The Hydrology and Water Resources Major emphasizes integrated research and management of surface water and groundwater resources and encompasses the sciences of water from molecular to global scale. The School has graduated 131 students from the Classes of 2014 and 2016; the current undergraduate body includes more than 80 students.
Practicum Experiences

Our School cultivates strong innovation capability in our students. A key effort is to organize a rich practicum experience for them. Students majoring in Environmental Science and Engineering and Hydrology and Water Resources Engineering have opportunities to attend various summer camps to obtain first-hand experiences at environmental firms or field research sites.
Graduate Programs

Southern University of Science and Technology has been officially authorized to grant doctoral and master degrees in 2018. The University has started to independently recruit doctoral students and master students since 2019. In addition, SUSTech continues to develop joint postgraduate programs with prestigious universities overseas. These include University of Birmingham, University of Queensland, and many others. Students will receive their graduate degrees from our partner institutions. Now, the School has more than 200 graduate students, and 71 graduate students have now obtained their degrees. As of July 2021, our graduate students have published more than 100 papers (including more than 80 SCI papers). The employment rate of our graduate students over the past two years is 100%.
PhD student Meng Ying awarded the third prize of Tang Xiaoyan Scholarship

PhD student Wang Yi at Oxford University
Research Platforms

Guangdong Provincial Key Laboratory of Soil and Groundwater Pollution Control

As one of the first two province-level key laboratories at SUSTech, this research center provides an interdisciplinary and platform for both fundamental and applied research in soil and groundwater contamination and remediation, with emphases on technological development and talent cultivation to meet the urgent needs in Guangdong and Southern China.

Key Laboratories and Engineering Lab supported by the Shenzhen Municipal Government

These Key Laboratories and Engineering Lab are funded by the Shenzhen Municipal Government to conduct research and develop novel engineering solutions in strategic areas to address the local needs of environmental protection. Currently, the School has three such laboratories and engineering centers in soil and groundwater, solid waste management, and environmental internet of things (IoT) technologies.
01 环境污染治理
Environmental Pollution Control

着眼于全球及区域日益严峻的环境污染问题，综合运用工程、化学、生物等多学科交叉的研究方法，揭示传统及新型污染物在水、土、气、固等多种环境介质中的迁移转化规律及生态效应；同时综合新型环境功能材料和人工智能技术，开发并应用先进治理技术与修复手段，聚力污染防治攻坚战，为解决环境污染问题提供理论基础和技术支持。

Focusing on the increasingly severe environmental issues, our mission is to find scientific and engineering solutions for the pollutions at regional and global scales. By integrating multidisciplinary methods in engineering, chemistry, biology, and other research areas, we aim at understanding the migration and transformation of conventional and emerging pollutants in various environmental media, including water, soil, air, and solids, as well as their ecological effects. By combining new environmental functional materials and artificial intelligence, we also work to advance treatment technologies and remediation methods. These cutting-edge research will lead to scientific and technological breakthrough in environmental protection and remediation.

02 水资源与水环境
Water Resources and Environment

研究与陆地水循环紧密耦合的生态环境过程，运用表层地球系统科学的理论与方法探索自然条件下人类活动对地表水体物理、化学、生物特性的变化规律，调节机制和调治策略，为水资源保护和可持续管理提供科学依据，研究成果可为解决当前和今后人类面临的重大水资源、水环境、水生态和水灾害问题提供理论依据和科技支撑。

This research area is focused on the terrestrial water cycle and its coupled eco-environmental processes. Equipped with theory and methodology of surface-Earth system science, studies in this area address changes in physical, chemical and biological characteristics of hydrosphere under both natural and human-impacted conditions, as well as driving mechanisms of and regulation strategies for such changes. The studies aim to provide a theoretical foundation and technical supports for tackling the grand challenges of water resources, water quality, aquatic ecosystems and water hazards encountered by the present and future human-beings.

03 全球环境变化
Global Environmental Change

针对气候变化、水资源短缺、大气环境污染、生态系统退化等全球重大环境问题，以“地球系统”为研究对象，综合运用遥感、大数据、地球系统模型等多种方法，建立全球环境变化综合模型、系统模拟与大数据平台，完善环境遥感监测技术和生产系统，形成全球变化的综合研究框架。为解决当前和今后全球环境问题提供科技支撑和战略解决方案。

In the context of climate change, water scarcity, environmental pollution and ecosystem degradation, this research area works on the Earth System, establishes platforms of comprehensive monitoring, systematic simulation and big data, develops remote sensing technology, develops advanced monitoring datasets of the Earth, and reveals the interacting mechanisms between the Earth’s atmosphere, hydrosphere, lithosphere, and biosphere. We conduct original research to address key scientific questions in global environmental change, develop technology for restoring degraded ecosystems, and provide nature-based solutions for global and regional environmental problems.
五大特色应用领域
Five Featured Application Fields

01 无废城市 Zero-Waste City

With the increasingly serious solid waste pollution in China, the development of “Zero-Waste City” is urgently needed to fundamentally solve the solid waste problem and a major national policy. Studies will focus on the structure characteristics and transformation mechanisms of critical components in solid waste, new technologies for efficient and clean utilization of solid waste, the development of technologies for ultra-low emissions, and the design of advanced functional materials. We will take the lead in providing scientific and technical support for the development of “Zero-Waste City” in Shenzhen and the Guangdong-Hong Kong-Macao Greater Bay Area.

02 生态修复 Ecological Restoration

03 智慧环保 Smart Environmental Protection

Facing the development theory and practice of ecological landscape, developing advanced technologies and practices, the research work focuses on the ecological landscape with the perspective of Chinese characteristics. The research group has already developed approaches to the theoretical and technological system for ecological restoration with characteristics.

Research

Our faculty advance the interdisciplinary frontier of environmental science and information science, and apply big data, artificial intelligence (AI) and Internet of Things (IoT) in environmental management. This direction of research supports the ongoing Smart City development in Shenzhen, in Guangdong-Hong Kong-Macao Greater Bay Area, and in the entire nation. The research faculty include the following: 1) innovation of environmental big data techniques, such as new environmental remote sensing data products, software and hardware for data crowdsourcing, and novel methods to fuse multisource environmental big data; 2) precise forecasting of air, soil and water (surface, subsurface and coastal) qualities based on integration of AI and physically based models; and 3) development of intelligent “monitoring-alert-decision-regulation” systems for managing urban water, soil and air pollution based on AI and IoT.
04 环境健康

Environmental Health

环境与健康是支撑健康中国的两大关键研究方向。通过研究自然环境与健康的关系，以及环境污染物的检测、评估和管理技术，实现环境保护与健康改善的协同效应。研究环境保护与健康的关系，有助于提高公众健康水平和生活质量。

To support the Healthy China mandate, the School of Environmental Health conducts cutting-edge multidisciplinary research in environmental health. In collaboration with biomedical scientists, we aim to explore how environmental risk factors interact with the biological systems and health protective behaviors of individuals, and, in turn, affect the health outcomes at different life stages. We seek to shed light on the mechanisms behind the associations between modern disease risks and exposure to environmental pollutants. Innovation in technologies is key to identify, reduce, and eliminate environmental health hazards, including, for example, high-spatiotemporal-resolution real-time pollution detection technology and big data-driven assimilation and modeling methods that reveal pathways and quantify doses of exposure.

“力争2030年前二氧化碳排放达到峰值、2060年前实现碳中和”已经成为我国经济社会发展的重大战略目标。减少大气温室气体排放是一个涵盖大气科学、公共管理、环境科学等多学科的系统性科学问题。本方向主要研究领域包括：1) 基于地面大气主要温室气体浓度监测及及其上气元排放核算的支撑方法体系研究；2) 基于市场机制的大气温室气体总量控制与交易机制研究；3) 实现大气温室气体减排的关键能源技术特征解析、趋势预测和系统优化模型的研发；4) 开展工业源CO2捕集、利用与封存技术及装备研发。

“Striving to reach the peak of carbon dioxide emissions by 2030, and striving to achieve carbon neutrality by 2060” has become the Nation’s strategic goal and will direct China’s future economic and social development. Reducing greenhouse gas emissions in the atmosphere is a systematic scientific problem, involving multiple disciplines such as atmospheric science, public administration, environmental engineering, and energy science. The main focus of this research area include: 1) key ground- and space-based monitoring technologies for atmosphere greenhouse gases and top-down emission estimation methods; 2) mechanisms of and strategies for market-based greenhouse gas emission control; 3) key energy technologies for reduce atmospheric carbon emissions; and 4) key technology for capture, utilization, and storage of industrial CO2.

05 大气减碳

Atmospheric Carbon Reduction

科研成果

Scientific Research Achievements

学院2015年成立以来共发表SCI文章1100余篇，包括大量发表在Science、Nature及其姊妹刊、PNAS等期刊的高水平论文。学院申请专利130余项，获得专利授权50余项。在2021年，学院发表的文章被Nature和Science等国际顶级期刊引用30余次，累计被引超过400次。

Since 2015, the School has published over 1100 SCI papers, including many papers published in Science, Nature and its affiliated journals, and PNAS. Nine software copyrights were obtained, and more than 50 patents were authorized. The School has been awarded more than 340 research projects, including major projects funded by the Ministry of Science and Technology, the NSFC, and other national, provincial, and municipal funding agencies. The total granted funding since 2015 exceeds 400 million RMB.

2021年2月发表于Nature，冯澜
Published in Nature in February 2021, Feng Lian

Title: Concerns about phytoplankton bloom trends in global lakes

2020年5月发表于Science，郑晗
Published in Science in May 2020, Yan Zheng

Title: Global Solutions to a Silent Poison
2020年2月发表于ACS Sustainable Chemistry & Engineering
（封面文章），张作泰
Published in ACS Sustainable Chemistry & Engineering (cover paper) in February 2020, Zuotai Zhang
Title: Novel Recovered Compound Phosphate Fertilizer Produced from Sewage Sludge and its Incinerated Ash

2019年11月发表于Nature Climate Change，曾振中
Published in Nature Climate Change in November 2019, Zhenzhong Zeng
Title: A reversal in global terrestrial stilling and its implications for wind energy production

2019年5月发表于Nature Communications，王俊剑
Published in Nature Communications in May 2019, Junjian Wang
Title: Nonlinearity of root trait relationships and the root economics spectrum

2021年4月发表于Environmental Science & Technology，李毅敏，傅宗政
Published in Environmental Science & Technology in April 2021, Yumin Li and Tsung-Ming Fu
Title: Impacts of chemical degradation on the global budget of atmospheric levoglucosan and its use as a biomass burning tracer

代表性科研奖项
Scientific Research Awards (selected)

王俊剑, 陈洪, 中国环境科学学会青年科学家奖, 2021
Junjian Wang and Hong Chen, Young Scientists Award of Chinese Society For Environmental Sciences , 2021

郑春苗, 易树平, 裘文慧, 张作泰, 贾玉健, 范林峰等, 环境保护科学技术奖二等奖, 2020
Chunniao Zheng, Shuping Yi, Wenhui Qiu, Zuotai Zhang, Yujie Ben, Linfeng Fan and so on, Second Prize of Environmental Protection Science and Technology Award, 2020

刘俊国, 张作泰, 唐瑞杰, 齐伟等, 深圳市科技进步奖-社会公益类一等奖, 2020
Junguo Liu, Zuotai Zhang, Yuanyuan Tang, Wei Qi and so on, First Prize of Shenzhen Science and Technology Progress Award, 2020

曾振中, 陈是杰出青年学者奖, 2020
Zhenzhong Zeng, Qiushi Outstanding Young Scholars Award, 2020

胡清等, 环境保护科学技术奖二等奖, 2019
Qing Hu and so on, Second Prize of Environmental Protection Science and Technology Award, 2019

郑一, 中国自然资源学会优秀科技奖, 2019
Yi Zheng, Excellent Science and Technology Award of China Natural Resources Society, 2019

冯烁, 中国环境科学学会青年科学家奖, 2019
Lian Feng, Young Scientists Award of Chinese Society For Environmental Sciences, 2019
Nanshan Distinguished Lecture Series on the Environment

The School organizes the Nanshan Distinguished Lecture Series on the Environment, which brings in renowned international and Chinese scholars to give lectures on cutting-edge research. To date, the lecture series has featured over 100 presentations by many well-known scholars, including Professor Hao Wang (Academician of the Chinese Academy of Engineering), Professors Shu Tao, Bajie Fu, Jiyang Wang, and Deiliang Chen (Academicians of the Chinese Academy of Sciences), Professors Christine Shoemaker, David Maidment, Michael Hoffmann, and Bridget Scanlon (Members of the National Academy of Engineering, US), Professor David Lerner (Fellow of Royal Academy of Engineering, UK), and Professor Jeffery McDonnell (Member of the National Academy of Engineering, Canada).
南方科技大学工程技术创新中心（北京）
SUSTech Engineering Innovation Center (Beijing)

南方科技大学工程技术创新中心（北京），依托南方科技大学环境科学与工程学院，紧密结合我国环保产业发展现状及行业特点，定位于消除科研成果与产业应用之间的鸿沟，以为社会带来效益、为教育创造机会、为学生带来就业、为社会创造利润为发展目标。通过与学术界和工业界的联合，将科研成果有效社会化、产业化、公开化，打造国际化的环境保护领域创新平台。创新中心的主要工作包括：研发关键环保技术，推动关键环保技术的工程化开发和技术集成，推进其示范推广和产业化；参与我国环保政策、标准和规范、技术导则的制定，为国家环境管理、监督与决策提供技术支撑和服务；为广大学生、专业人才和公司技术骨干提供专业培训，推动国际化产学研用交流与合作平台。

The SUSTech Engineering Innovation Center (Beijing) is supported by the School of Environmental Science and Engineering. Closely aligned with the development of the environmental protection industry in China, the Innovation Center focuses on bridging the gap between scientific research and industrial applications. It helps faculty to convert their research product to benefit the society, as well as provides employment opportunities to graduates and profits to enterprises. The Innovation Center connects the academia and the industry by commercializing cost-effective and publicly-accessible products or services, as well as pushes these SUSTech products and technologies to the global stage.

The mission of the Innovation Center includes: development of key environmental technologies, promotion and integration of key environmental technologies into engineering applications, and demonstration and commercialization. The Innovation Center will also participate in developing Chinese environmental protection policies, standards and technical guidelines, providing technical support and services to central and local authorities in the fields of environmental management, monitoring, and decision-making.

深圳市南科环保科技有限公司
SUSTech Environmental Ltd.

2016年，在深圳市科技创新委员会与南方科技大学的支持下，深圳市南科环保科技有限公司成立。公司充分利用南科大环境学院的技术和人才优势，努力打造一流的技术研发和产业化平台，公司在流域环境规划和综合治理、土壤和地下水污染防治、泥沙及底质处置和资源化利用、基于物联网和互联网的环境综合监测管理的“智慧平台”等重点领域，具有宽阔的国际视野和先进的技术水平。

SUSTech Environmental Ltd. was established in 2016 with support from the Scientific Innovation Commission of Shenzhen City and the Southern University of Science and Technology. SUSTech Environmental Ltd. aims to leverage the expertise of the School’s faculty to build up a leading R&D and technology transfer base. The firm currently focuses on watershed planning and management, soil and groundwater pollution control, contaminated sediment and solid waste recycling, and web-based environmental monitoring and sustainable technologies.
THANKS