|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. | Team Name | Research Direction | PI | Team Profile | Candidate Qualifications |
| 1 | Inland Lakes and Watershed Processes Team | Intelligent monitoring and assessment of lake-watershed surface system processes and ecological responses | Alim Samat | The team investigates the evolution of lake-watershed ecological environments under the combined influences of climate change and human activities. Its primary research focuses on the evolution of lake-wetland systems in Central Asia, the formation of salt-dust storms on dried lakebeds, and their ecological impacts. By deeply integrating remote sensing-based retrieval with geospatial intelligence analysis, the team achieves comprehensive advances from fundamental theory to ecological management, promoting interdisciplinary integration across limnology, hydrology, ecology, climate science, remote sensing, and geographic information systems. Through cross-disciplinary collaboration, the team systematically examines the combined effects of natural processes and human activities, elucidating the response mechanisms and feedback processes of Central Asian lake-watershed systems under global change. This work provides informed guidance for regional ecological governance and sustainable development. | 1. Possess a PhD degree in Geography, Ecology, Hydrology, Remote Sensing, Geographic Information Systems, or related fields. 2. Published at least three SCI papers as first author in relevant professional fields (representative works must be provided). 3. Preference will be given to candidates with overseas study experience or postdoctoral experience at top domestic or international research institutions. 4. Demonstrate independent research ability and strong teamwork skills. 5. Candidates should generally be under 40 years of age (age limit may be relaxed for exceptionally qualified candidates).   Note: We particularly encourage applications from candidates with notable achievements in interdisciplinary research. |
| 2 | Young Innovation Team for Sustainable Development of Water-Energy-Food-Ecology in Arid Regions | Water-energy-food-ecology feedback mechanisms and sustainable development in arid regions, with the water cycle as the main line | DUAN Weili | The team focuses its research on water cycles and water security in arid regions. In response to national strategies and the needs of industrial clusters in Xinjiang, the team focuses on water cycling mechanisms, water resource carrying capacity thresholds, and coordinated regulation of water-energy-food-carbon systems under the impacts of climate change and human activities. The team has developed comprehensive research capabilities in natural water cycle analysis, socio-hydrological modeling, and ecological security assessment, enabling efficient water resource utilization and promoting sustainable development in arid regions. The team aims to become an innovative group distinguished by disciplinary expertise, strong research capabilities, and tangible local impact. | Candidates should have a background in Physical Geography, Hydrology and Water Resources, Ecology, Remote Sensing, Geographic Information Systems, or related fields, and generally be under 40 years of age. They should have demonstrated peer-recognized achievements in basic scientific research or technological development, and possess strong independent research capabilities, teamwork skills, and proficiency in both written and spoken Chinese and English.  Candidates with experience in hydrological model construction or in the practical application of remote sensing big data in water resources research and management will be given preference. |
| 3 | Remote Sensing Team for Ecology and Resource Environment in Arid Regions | Integrated space-air-ground monitoring and intelligent early warning of ecological security in arid regions | Guli Jiapaer | The team focuses on the vulnerability and sustainable development of ecological and resource environments in arid regions. It has established an integrated space-air-ground-network collaborative observation system, with key research areas including: intelligent fusion and knowledge mining of multi-modal remote sensing data; high-precision retrieval of key land surface parameters; coupled processes and mechanisms of water-soil-atmosphere-ecology systems; intelligent monitoring and simulation of ecological and environmental systems; and multi-dimensional early warning and risk assessment for natural disasters. The core team comprises 12 members who, in the past five years, have undertaken more than 30 national and provincial/ministerial projects, received over 10 provincial and ministerial awards, led three recognized provincial-level innovation teams, and been awarded more than 20 talent titles at the national, provincial, and Chinese Academy of Sciences levels. | 1. Recent PhD graduates in Physical Geography, Ecology, Hydrology, Remote Sensing, GIS, or related fields, aged ≤35. 2. Published at least two SCI papers in the past three years as first or corresponding author in CAS Zone 1 journals. 3. Preference will be given to candidates with experience in remote sensing and geospatial big data analysis, radar remote sensing (SAR/InSAR) processing, coupled ecological modeling, and applications of artificial intelligence. |
| 4 | Tourism Industry and World Heritage Team | Human-land relationships and sustainable development in arid regions | HAN Fang | The team is supported by the institute-local cooperation platform, the Xinjiang Tourism Academy, and the Xinjiang Digital Heritage and Smart Tourism Engineering Technology Research Center, a major engineering center in the autonomous region. Its research focuses on the development of high-quality tourism in the core area of the Silk Road Economic Belt; the assessment and coordinated protection of World Heritage sites and national parks; sustainable urban-rural construction and development in arid regions; and key technologies for digital heritage and smart tourism. The team has undertaken major research projects, including the National Key R&D Program, the second Qinghai-Tibet Scientific Expedition, and the third Xinjiang Scientific Expedition. It has been honored with the National Innovation Excellence Award and the First-Class Science and Technology Progress Award of the autonomous region. Team members have also received individual recognitions, including the Tianchi Talent, the Tianshan Talent, and the Ministry of Natural Resources High-Level Scientific and Technological Innovation Talent Program. | Candidates should have a background in Geography and demonstrate strong independent research capabilities as well as teamwork skills. They must have at least one high-quality first-author publication. Preference will be given to candidates with expertise in geospatial modeling and GIS analysis. |
| 5 | Oasis Water-Soil Processes and Mechanisms Team | Water and heat processes and coupling mechanisms in mountain-oasis-desert ecosystems | HAO Xingming | In response to the strategic need for the sustainable development of oasis societies, economies, and ecosystems, the team conducts long-term observational experiments and watershed-scale numerical simulations to investigate key scientific issues regarding oasis ecological security, stability, and sustainability under changing environmental conditions. It investigates the coupled water-heat processes and mechanisms in oasis-desert ecosystems and establishes a watershed-scale framework for analyzing the coupling of mountain–oasis–desert systems. Through applied fundamental research, the team develops innovative approaches and advances modern geographical science theories. | We are seeking PhD graduates in Physical Geography, Ecology, Remote Sensing and GIS, Agricultural Water Conservancy Engineering, Agronomy, or related fields, aged ≤35 (the age limit may be relaxed for exceptionally qualified candidates).  Applicants must possess strong academic writing and communication skills, be proficient in data processing tools (Python, R, Matlab, etc.), and have published at least one SCI paper as the first author. Preference will be given to candidates who have led national-level projects or have overseas work experience. |
| 6 | Orogeny and Mineralization Team | Orogenic processes and mineralization in Xinjiang and neighboring Central Asian regions | LI Nuo | Led by an academician of the Chinese Academy of Sciences, the team focuses on orogeny and mineralization research to meet key national and Xinjiang mineral resource needs. In the past five years, it has conducted multidisciplinary, cross-scale systematic studies on subduction-accretion processes in orogenic belts, mineralization patterns and mechanisms, mathematical geology, and mineralization prediction, achieving breakthroughs on several major scientific questions regarding orogenic belt tectonics and mineralization. The team has undertaken major projects, including the Third Xinjiang Scientific Expedition, projects under the National Natural Science Foundation of China’s Basic Science Center, and key regional scientific and technological programs. It has published numerous high-quality papers in journals such as Communications Earth & Environment and Geology, and has been granted multiple national invention patents. The team has received top-tier awards, including the Xinjiang Science and Technology Special Prize and the Ho Leung Ho Lee (HLHL) Foundation Award. | Leading Talent: Internationally recognized experts in Structural Geology, Petrology, Geochemistry, Mineralogy, Mathematical Geology, or related fields. Candidates should have held positions as professors or equivalent roles at prestigious research institutions, universities, or major enterprise R&D centers. Ideally, candidates should be under 50 years of age.  Special Research Assistant: Candidates who have obtained, or are about to obtain, a PhD in Structural Geology, Mineralogy and Petrology, Mineral Exploration, or related fields, with a solid background in Geography. Candidates should also have published SCI papers in the relevant field as first authors. |
| 7 | Desert Research Team | Prevention and control of wind-sand hazards and degraded ecosystem restoration in arid regions | LI Shengyu | The team addresses key national economic priorities, including integrated desert hazard management, the construction of oasis ecological barriers, restoration of degraded desert ecosystems, afforestation in extremely harsh sites, the development of desert ecological industries, and pollution prevention. Its research is structured in five directions: (1) fundamental studies of wind-sand dynamics, (2) R&D of engineering sand-control technologies and materials, (3) ecological construction and R&D for ecological industry development, (4) desertification prevention and control technology frameworks, and (5) pollution prevention and environmental remediation technologies. By integrating the full spectrum of industry-academia-research activities, the team provides technological support for the Belt and Road Initiative, rural revitalization, poverty alleviation in arid and sandy regions, and ecological civilization development. | Candidates include PhD graduates, returnees from overseas studies, and outstanding young international scholars with backgrounds in Physical Geography, Environmental Science, Ecology, Soil and Water Conservation and Desertification Control, Solid Waste Utilization, and Environmental Pollution Management, or related fields. |
| 8 | Central Asian Arid Region Ecosystem Monitoring and Change Team | Evolution processes of typical ecosystems in Central Asian arid regions, mechanisms of degradation and restoration, and associated management technologies | LI Yaoming | The team focuses on the arid regions of Central Asia, investigating the multidimensional coupling mechanisms of climate change, ecosystem responses, and regional sustainable development, while integrating fundamental theory with applied practice. By elucidating the synergistic relationships among ecological security, environmental processes, and sustainable resource management, the team has produced a series of internationally influential original findings and developed a governance system centered on degraded ecosystem restoration technologies. Its work provides scientific paradigms for the “Green Silk Road” initiative and advancing ecological civilization governance in global arid regions. The team aspires to become a global leader in technological innovation for arid-region ecology, a policy advisory hub, and a core center for international cooperation, while promoting the practical implementation of China’s ecological governance solutions in key regions of Central Asia. | We are seeking talents in Ecology, Environmental Science, Physical Geography, Biological Sciences, or related disciplines, generally under 35 years of age (age limit may be relaxed for exceptionally qualified candidates). Applicants must have strong academic writing and communication skills, and proficiency in basic data processing tools (Python, R, SPSS, etc.) Additionally, they should have published at least one SCI paper as first author. |
| 9 | Arid Region Water Resources and Surface Processes Team | Water cycle and ecohydrological processes in arid regions | LI Zhi | Based in Xinjiang with a focus on Central Asia, the team addresses water-related challenges in arid regions. Its research explores key scientific questions such as the evolution of arid-region water cycles, ecohydrological processes, and their coupled mechanisms. The team conducts both fundamental and applied research on mountain water cycles and resources, oasis ecosystems, and desert environments, yielding a series of significant and innovative scientific achievements. The team’s achievements have been recognized with four National Science and Technology Progress Second Prizes, the CAS Outstanding Science and Technology Achievement Prize, the Xinjiang Science and Technology Special Prize, five provincial/ministerial First Prizes for Scientific and Technological Progress, and two First Prizes in Natural Science. | Candidates should: Hold or be close to completing a PhD in Physical Geography, Hydrology and Water Resources, Ecology, Hydrometeorology, Remote Sensing and GIS, or related fields. Be proficient in programming languages (Python, R, Matlab, etc.) for research purposes. Possess strong teamwork, along with excellent writing, presentation, and coordination skills. Have a background in Geography and have published at least two high-quality first-author papers in the relevant field. |
| 10 | Land Change and Ecological Simulation Team | Land change and ecological effects based on artificial intelligence and spatiotemporal big data | LUO Geping | The team is a multidisciplinary and internationally influential young research team (average age 39) that focuses on global change ecology, ecosystem modeling, landscape ecology and planning, satellite remote sensing, big data and artificial intelligence analysis, and ecohydrology. In recent years, it has secured over ten major projects, including the National Key R&D Program, CAS Class-A Pilot Projects, and national talent programs. It has published numerous papers in top international journals, including Nature Ecology & Evolution, Science Bulletin, Remote Sensing of Environment, and Geophysical Research Letters, establishing itself as a leading research team in arid-region studies with significant international influence. | Candidates should have a background in Physical Geography, Global Change Ecology, Vegetation Remote Sensing, Big Data Analysis, or related fields, and be proficient in programming languages such as Python. Research areas include: 1) Global Change Ecology; 2) Carbon Sequestration and Enhancement of Carbon Capture Capacity; 3) Ecosystem Services and Applications; 4) Watershed Hydrology, Water Resources, and Ecohydrology; 5) Artificial Intelligence and Remote Sensing Big Data Analysis.  Applicants must have published at least one paper in leading international journals and demonstrate both independent research capabilities and teamwork skills. |
| 11 | Desert-Oasis Relationship Team | Maintenance of ecological function stability in desert-oasis systems | WANG Yugang | The team focuses on desert plant ecology and oasis farmland ecology. In desert regions, research centers on plant-water relationships, plant-nutrient interactions, and responses and adaptations to global change. In oasis regions, it focuses on water-driven dynamics of salinity, nutrient cycling, and sustainable development. At larger scales, the team investigates the oasis-desert symbiotic relationship, focusing on material exchanges between the two systems. Leveraging the Fukang National Field Scientific Observation and Research Station for Desert Ecosystems, the team has accumulated over 30 years of data on water, soil, atmosphere, and biological components in desert-oasis ecosystems. In the past five years, it has published more than 50 papers and secured over RMB 30 million in research funding, with key members recognized through national, CAS, and regional talent programs. | We are seeking outstanding talents in Ecology, Physical Geography, and Data Science to join our team. Applicants should hold a PhD degree, with preference given to those who have overseas work experience or a record of international collaboration. Candidates should have published 1-2 SCI papers in leading international journals, be under 40 years of age, and possess strong research capabilities as well as the ability to work independently. |
| 12 | Young Scientists Group on Plant Nutrition and Stress | Green and efficient genetic improvement of crops for sustainable agriculture in arid regions | XIAO Xinlong | The team is dedicated to uncovering the molecular mechanisms underlying plant responses to nutrient stress, using model plants such as Arabidopsis thaliana and the “super grain” quinoa. Its research covers plant nutrient molecular biology, nutrient-stress interactions, epigenetics, and plant genome editing. The team has elucidated novel mechanisms controlling root-shoot phosphorus allocation under phosphorus deficiency, investigated the impact of lipid metabolism disorders on phosphorus transport, and revealed the regulation of ROS1 expression and DNA methylation by SUVH proteins (highlighted in a cover article). Notably, the team was the first to clone a phosphorus starvation-responsive transcription factor in quinoa. These findings have been published in high-impact journals, including Nature Plants, Journal of Integrative Plant Biology (JIPB), The Plant Journal, and Plant Cell Reports. | We are seeking to recruit 1-2 Postdoctoral Researchers or Special Research Assistants with a PhD in Molecular Biology, Genetics, Botany, or related fields. Candidates should possess robust molecular biology research training, a diligent work ethic, strong teamwork skills, and the ability to conduct research independently. Applicants must have at least one first-author research paper either published or under review. |
| 13 | Inland River Basin Ecohydrology Team | Hydrological processes and ecological restoration technologies in inland river basins | XU Hailiang | The team specializes in restoring and conserving degraded ecosystems, with a focus on integrated ecohydrological processes. It investigates plant-hydrology response mechanisms in inland river basins, water cycle regulation in representative ecosystems, and ecological water-supply models. By advancing theoretical understanding and technological innovation, the team systematically analyzes patterns of vegetation ecological adaptation in arid regions, develops key ecological restoration technologies, and promotes the practical application of high-level research findings. It has become an influential research team in arid-region ecology, earning multiple provincial and ministerial Science and Technology Progress Awards. In the past five years, the team has published more than 80 papers in SCI journals, authored six academic monographs, and been granted over ten national patents. | We invite applications from PhD holders in Ecology, Hydrology, Physical Geography, or related fields (age ≤40). Preference will be given to candidates with experience in ecological restoration technologies, hydrological modeling, or remote sensing applications. Applicants should have published at least three papers in top-tier journals within the past five years. Preference will be given to those who have led national-level projects or have overseas experience. |
| 14 | Arid Region Biodiversity Conservation Team | Biodiversity conservation in arid regions | YANG Weikang | The team is based in the arid regions of Northwest China and focuses on the forefront of international biodiversity research. Its work includes investigating biodiversity distribution patterns in arid regions, developing biological resource collection and conservation technology platforms, and conducting studies in evolution and taxonomy. The team addresses key scientific questions in biodiversity conservation and utilization in arid zones, supports strategic goals for the sustainable use of unique biological resources, and provides technological support to establish a biodiversity safety barrier in arid regions along the Belt and Road Initiative. | Applicants should hold a PhD in Ecology, Zoology, Botany, Taxonomy, Molecular Biology, Genetics, or related fields. Candidates must possess strong research skills in the corresponding area and should have published at least one first-author SCI paper in the relevant field. |
| 15 | Arid Region Ecosystem and Environmental Evolution Team | Environmental evolution and sustainable development in arid regions | YU Yang | The team integrates traditional approaches and artificial intelligence technologies to study ecosystem and environmental evolution in global arid and semi-arid regions. Its research focuses on ecosystem and sustainability management, water resource management in arid regions, and the impacts of climate change and human activities on arid environments. Leveraging the Polish-Chinese Environmental Research Centre and the Sino-German Joint Research Center for the Management of Ecosystem and Environmental Changes in Arid Lands, the team actively promotes international collaborations, advances frontier research, and nurtures high-level talent, achieving multiple significant outcomes at both national and international levels. | Candidates with a background in Physical Geography, Hydrology and Water Resources, Ecology, Environmental Science, or Artificial Intelligence are encouraged to apply. Applicants must hold a PhD and demonstrate their research capability through at least two representative achievements. Applicants should possess strong research literacy and teamwork skills. Overseas study or work experience will be considered an advantage. |
| 16 | Fragile Ecosystem Restoration and Conservation Team | Mechanisms for maintaining stability of fragile ecosystems, efficient restoration technologies, and optimized management strategies | ZENG Fanjiang | Leveraging the Cele National Field Research Station for Desert Steppe Ecosystems, the team conducts theoretical research, develops applied technologies, and carries out experimental demonstrations in degraded vegetation restoration, wind-sand environment management, and oasis ecological construction. Their work provides scientific guidance and technical support for regional sustainable development. Key research directions include: (1) wind-sand transport dynamics and the optimization of shelterbelt systems; (2) Restoration and conservation of natural desert vegetation through optimized water resource allocation; and (3) Ecological restoration and comprehensive capacity enhancement of degraded grasslands in the Kunlun Mountains. The team also conducts integrated studies on the stability of fragile ecosystems, degraded vegetation restoration, system evolution, and carbon source-sink dynamics in arid regions. | We are seeking young talents (age ≤35) specializing in Arid Zone Plant Ecology, Microbial Ecology, Environmental Science, Soil and Water Conservation and Desertification Control, Hydrometeorology, Remote Sensing, or Geographic Information Systems. Candidates should possess strong writing, communication, and coordination skills, a solid expertise in geography, and at least one first-author SCI publication in the relevant field. |
| 17 | Desert Plant Stress-Resistance Molecular Team | Molecular mechanisms of stress resistance and exploration/utilization of gene resources | ZHANG Daoyuan | The team focuses on unique desert plant resources in arid regions, and conducts research on their conservation as well as molecular mechanisms underlying stress resistance. Its studies encompass specialized water-adaptation processes and regulatory networks of drought-tolerance gene expression, construction of plant genomic big data and comparative genomics, as well as the identification of stress-resistance genes for molecular breeding. The team has sequenced 26 drought-tolerant plant genomes and developed over 100 multi-omics databases, establishing a leading position in international research on the molecular mechanisms of plant drought tolerance. It has identified and functionally validated dehydration-related genes and key metabolites, and successfully applied them to crops such as cotton, soybean, rice, and alfalfa. This has resulted in the generation of over 40 transgenic crop lines with strong potential for practical applications. | We are recruiting Special Research Assistants both domestically and internationally. Requirements: A background in Molecular Biology and Biochemistry, with proficiency in bioinformatics software and analysis methods; At least one SCI publication; Proficiency in English reading and writing. |
| 18 | Young Scientists Group on RNA Silencing and Plant-Microbe Interactions | Plant-Pathogen interactions and applications of RNA interference (RNAi) in pest and disease resistance | ZHANG Tao | The team investigates the roles and applications of gene silencing in plant-pathogen (fungal) interactions, using model plants such as Arabidopsis thaliana and tobacco, along with major crops including cotton, wheat, maize, and melon. It also explores the effects of climate change on RNA interference (RNAi). The main research directions are: (1) molecular mechanisms and applications of RNAi-mediated disease resistance, and (2) mechanisms of plant-fungal pathogen interactions and strategies for disease prevention and control. The team’s research has been published in internationally renowned journals, including Nature Plants, Molecular Plant, Plant Biotechnology Journal, International Journal of Biometeorology, International Journal of Molecular Sciences, Plant Communications, and Nature Communications. | Applicants should have a PhD in Molecular Biology, Genetics, Botany, Microbiology, or related fields, or be recent PhD graduates who have successfully defended their thesis, and be in good health.  Special Research Assistant (Full-time Postdoctoral): Typically under 38 years old; Strong scientific writing and communication skills in both Chinese and English; Ability to independently design experiments, analyze data, and solve scientific problems.  Young Talent: At least 3 years of research experience; Typically under 40 years old; Must have published at least one paper with an impact factor >10, or two papers with an impact factor >7. |
| 19 | Arid Region Ecological Processes and Biological Adaptation Team | Structure and function of desert ecosystems under global change | ZHANG Yuanming | The team has long been at the forefront of ecological research in the arid regions of Central Asia, with a primary focus on the scientific question of “ecosystem multifunctionality and its maintenance mechanisms.” With water as its central theme, the team investigates key ecological processes in arid regions by examining the cycling of elements such as carbon, nitrogen, phosphorus, and sulfur. Leveraging platforms including the China-Tajikistan Belt and Road Joint Laboratory, key laboratories in the Xinjiang Autonomous Region, and the Tianshan Wild Fruit Forest Observation Station, the team has published over 100 papers in leading journals over the past five years, including The Innovation, Soil Biology & Biochemistry, Remote Sensing of Environment, and Plant, Cell & Environment. | We are seeking PhD holders in Ecology, Botany, Microbiology, Soil Science, Biological Invasions, or related fields. Ideal candidates should: Have a solid professional foundation; Have published at least two first-author papers in CAS Zone 1 journals or led at least one national-level research project; Demonstrate independent research capability, strong teamwork, innovation potential, diligence, and a high sense of responsibility. |
| 20 | Farmland Ecological Security and Oasis Human-Land Relationship Team | Integrated management of saline-alkali land and sustainable development of oases in arid regions | ZHAO Zhenyong | The team, based in Xinjiang and addressing challenges in arid regions, focuses on scientific questions and technological needs related to water and soil resource development, ecological restoration, biodiversity conservation, and sustainable oasis agriculture. Its research encompasses the efficient utilization and regulation of oasis agricultural resources, physiological and ecological adaptations of halophytes, rhizosphere processes and their regulation, and green ecological restoration technologies for saline-alkaline soils. By leveraging platforms such as the Ministry of Agriculture and Rural Affairs Key Laboratory for Biological Resources and Utilization of Saline-Alkaline Land (Northwest Inland Saline-Alkaline Land) and the Xinjiang Specialty Economic Plants Engineering Technology Research Center, the team’s technologies for oasis agricultural safety management and saline-alkaline land improvement have been widely applied both domestically and internationally. Its research findings have been published in journals including Ecological Engineering, Agriculture, Ecosystems & Environment, Industrial Crops & Products, Plant and Soil, Geoderma, Catena, and Communications Biology. | Applicants should hold a PhD in Agronomy, Soil Science, Plant Nutrition, Ecology, or related disciplines, be between 30 and 35 years of age, and possess strong writing, communication, and coordination skills. Candidates must have published at least two first-author SCI papers in internationally recognized journals. |