

## Biography

Dr. Junguo Liu is a Chair Professor in the School of Environmental Science and Engineering at Southern University of Science and Technology (SUSTech) in China, and a Senior Guest Research Scholar at the International Institute for Applied Systems Analysis (IIASA) in Austria. He is an elected member of Academia Europaea (The Academy of Europe). His main research interests include hydrology and water resources, global environmental change, and ecological restoration. He has earned an excellent international reputation through his contributions to the fields of water resources research and ecological restoration.

Prof. Liu has outstanding scientific achievements and extensive services to the water research and ecological restoration communities worldwide. He addresses research questions such as how water use, water quality and water scarcity are affected by socio-economic activities, how they vary among regions and how they may evolve over time, and what management strategies could effectively mitigate resources scarcity and restore degraded ecosystems. He has led pioneering work on advancing water resources assessment in coupled human-natural systems. He created the three-dimensional (3D) water scarcity theory by incorporating water resources quantity, quality and environmental flow requirement in the water scarcity assessment. His work has been a breakthrough in assessing and quantifying the water quantity and quality related water scarcity, which has become increasingly common in many areas in the world as the poor water quality makes the limited water resources not useable.

Prof. Liu has made a substantial contribution to river restoration in China. He created the theory of stepwise ecological restoration (STERE) that comprises three modes in different restoration stages: environmental remediation in the initial stage with serious degradation, ecological rehabilitation for moderately degraded ecosystems, and natural restoration for slightly degraded ecosystems. He established the first provincial-level ecological restoration-relevant society in China, and was elected as the first and second President of the Society for Ecological Rehabilitation of Beijing (SERB). He is also the Chair of the Union of Societies for Ecological Restoration and Environmental Protection (USEREP).

He has extensive working experience in China, Austria, the Netherlands, Switzerland, Germany, the U.K., and the U.S., among others. He is an expert consultant for many international organizations including UN-Water, UNEP, FAO, Alliance for Global Water Adaptation (AGWA), and the Water Footprint Network. He was selected as a Lead Author of the IPCC (Intergovernmental Panel on Climate Change) Sixth Assessment Report. He is a Vice Chair of the Chinese National Commission for the International Association of Hydrological Sciences (CNC-IAHS), a target leader of the Decade Program 2013-2022 (*Panta Rhei*) of the International Association for Hydrological Sciences (IAHS), the Chair of the working group on *Water Scarcity Assessment* of the *Panta Rhei* program, and the vice-president of the Chinese Working Committee

for the IAHS-Panta Rhei. He organized and co-chaired *the first International Conference on Hydrological Knowledge Innovation and Practice in Developing Countries* in 2016 in Shenzhen, China. This conference has led to the mile-stone document “The Shenzhen Declaration on Global Hydrological Science and Practice”, and a series of international conferences in developing countries. He was also the Chair of the 9<sup>th</sup> World Ecosystem Services Partnership Conference that was held in Shenzhen in December, 2017.

Prof. Liu is author of 248 publications (180 English journal articles), including 7 books and 16 articles in *Science* (2), *Nature* (2), *PNAS* (3), *Nature Climate Change* (3), *Nature Communications* (2), *Nature Sustainability* (2), *Nature Food* (1) and *Science Advances* (1). His articles have been cited for over 11,000 times. He is/was an editor-in-chief, editor, associate editor or board member of 9 scientific journals, and a guest editor of 9 special issues in various journals. In 2021, he was listed in the Reuters Hot List of the World’s 1,000 Top Climate Scientists, Stanford University's 2020 World's Top 2% Scientists, and Elsevier Highly Cited Chinese Researchers. He is recognized with numerous awards that include the World Academy of Sciences (TWAS) Award, the *Communication Award* of the International Society for Ecological Restoration (SER), EGU’s *Outstanding Young Scientist Award* (the world first hydrologist for this award), the Special Allowance of State Council of China, and the *Outstanding Young Scientist Award* from the National Natural Science Foundation in China.