The session on "Spatiotemporal Intelligence and Digital Watershed" of the 2026 International Conference on Natural Resources and Planning was successfully held: crossing disciplinary boundaries and reshaping watershed cognition

On the afternoon of March 28, 2026, the Session S2 "Spatiotemporal Intelligence and Digital Watersheds" of the 2026 International Conference on Natural Resources and Planning was held at the LG.59 Lecture Hall of the University of Hong Kong. This session is hosted by the Digital Watershed Professional Committee and jointly convened by scholars from Zhejiang University of Technology, Tianjin University, Wuhan University, and other institutions. It brings together top experts and scholars from Germany, Belgium, the United States, China, Uzbekistan, Kazakhstan and other countries, to discuss cutting-edge theories and technological innovations in watershed scientific management in the era of artificial intelligence through 12 high-density academic presentations. Prof. Philippe De Maeyer and Prof. Li Zhilin discussed the development of basic concepts of watershed theory and the future direction of intelligent spatial computing; Prof. Tang Guoqiang and Prof. Wang Dagang proposed AI solutions for hydrological base flow segmentation and hydrological parameter calibration; Chair Prof. Long Aihua, Prof. Abduwokhid, and Associate Prof. Pan Xiaohui shared their theoretical thinking and practical experience in the sustainable management of water resources in the basin, using the example of the Abi Lake and Amu Darya River basins; Dr. Chris Carleton, assistant Prof. Ying Yu, and Dr. Song Shuangbo shared their new research findings on archaeology and climate change response using spatiotemporal data. This fully demonstrates the innovative application of spatiotemporal intelligent technology in analyzing the mutual feedback effect of ecological environment, addressing climate change, water resource management, and cultural heritage protection.

At 6 pm, amidst warm applause, the convener Prof. Xi Chen delivered a closing speech, summarizing that the successful holding of this sub forum marks a profound transformation of watershed science from "experience driven" to "data model dual driven", and from "single objective optimization" to "multi-objective collaboration". The ultimate goal of spatiotemporal intelligent technology is not to replace human decision-making, but to enhance our spatial cognitive ability and achieve more equitable and sustainable water resource governance. The attending scholars unanimously believe that with the deep integration of artificial intelligence and Earth system science, "digital watersheds" will become the core infrastructure for addressing the global water crisis and ensuring ecological security.

2026 国际自然资源与规划会议的"时空智能与数字流域"分论坛成功举办：跨越学科边界，重塑流域认知

2026 年 3 月 28 日下午 2 时，2026 国际自然资源与规划会议（2026 International Conference on Natural Resources and Planning）分论坛 S2"时空智能与数字流域"（Spatiotemporal Intelligence and Digital Watersheds）在香港大学 LG.59 报告厅举行。本场分论坛由数字流域专业委员会主办，由浙江工业大学、天津大学、武汉大学等单位学者联合召集，汇聚了来自德国、比利时、美国、中国、乌兹别克斯坦、哈萨克斯坦等国的顶尖专家学者，通过 12 场高密度学术报告，共同探讨人工智能时代流域科学管理的前沿理论与技术创新。Philippe 教授和 李志林教授讨论了流域理论基础概念发展研究和未来智能空间计算的发展方向；唐国强教授和王大刚教授从水文学基流分割和水文参数率定方面提出了 AI 解决方案；龙爱华教

授、Abduvokhid 研究员和潘研究员在流域水资源可持续管理方面以艾比湖和阿姆河流域为例，分享了自己的理论思考和实际经验；Chris 研究员、Ying Yu 教授和宋爽博后分享了自己利用时空数据对考古和气候变化应对方面研究新成果。充分展现了时空智能技术在解析生态环境互馈效应、应对气候变化、水资源管理与文化遗产保护中的创新应用。

下午 6 时，在热烈的掌声中，召集人 Xi Chen 教授致闭幕辞，总结指出，本次分论坛的成功举办标志着流域科学正在经历从"经验驱动"向"数据-模型双驱动"、从"单一目标优化"向"多目标协同"的深刻转型，时空智能技术的终极目标不是替代人类决策，而是通过增强我们的空间认知能力，实现更公平、更可持续的水资源治理。与会学者一致认为，随着人工智能与地球系统科学的深度融合，"数字流域"将成为应对全球水危机、保障生态安全的核心基础设施。