

Frontiers in hydrology and water resources research - Future perspectives from early career researchers –

*Tomohiro Tanaka¹, Satoshi Watanabe², Shunji Kotsuki³, Yoshiaki Hayashi⁴, Yasuyuki Maruya⁵, Yoshiya Touge⁶, Dai Yamazaki², Masaomi Kimura², Masahiro Tanoue², Tomohiro Egusa², Masakazu Hashimoto¹, Makoto Nakayoshi⁷

1. Kyoto University, 2. The University of Tokyo, 3. RIKEN, 4. Fukuoka University, 5. Gifu University, 6. Tohoku University, 7. Tokyo University of Science

Young researchers and graduate students of in the Japan Society of Hydrology and Water Resources has continued inter-researcher networking for encouraging intensive interaction and future collaboration since 2009. As one of this activity, 12 early career researchers summarized the review and future perspectives of their expertise, mainly focusing around their ongoing research progress in the field of hydrology and water resources research. The target fields are hydro-climatology/meteorology, data analysis for hydrology and water resources research, catchment hydrology, environmental hydrology, and irrigation and drainage engineering. Finally, we found some common issues among the above broad research fields: 1) applied studies do not just convert findings of fundamental research into practice but also shed light on unvalued issues at a fundamental level; therefore, intensive interaction between fundamental and applied studies are essential, 2) we need stronger recognition to the fact that infinite combination of numerical experiments are becoming realized thanks to enrichment of computer resources, which yields number of publications, but their principles are based on long-term field observation, 3) AI technology is expanding control problems, 4) interdisciplinary collaboration should be more emphasized, 5) various types of studies, which indirectly contributing society through the enhancement of the quality of research work such as development of basic geographical dataset and/or uncertainty analysis, must be more highly evaluated, 6) broader sharing of data and their observation/analysis technique is necessary for enhancing research work of other fields as well as their own field. We confirmed that it is important to process our research with these perspectives.

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