Institute of Industrial Science
The University of Tokyo
4-6-1 Komaba, Meguro-ku
Tokyo 153-8505, Japan

Phone: +81 3 5452-6382
Fax.: +81 3 5452-6383

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To whom it may concern:

I am writing this letter to strongly support Dr. Victor Pellet as a candidacy of CNRS Researcher position. I'm sure this award would significantly enhance his long-term research activities on terrestrial water cycle.

I'm leading Global Hydrology Laboratory in Institute of Industrial Science, The University of Tokyo as Associate Professor. Dr. Pellet joined our team in July 2019 as "JSPS/CNRS Postdoctoral Research Fellow" and he had worked on sub-basin scale water budget analysis using multiple satellite observations until November 2020. The JSPS/CNRS Fellowship is a very competitive award, and I'm very happy that the proposal of Dr. Pellet was highly evaluated and that we could work together on the challenging scientific work. It was also a nice opportunity to host Dr. Pellet as we could also collaborate with Prof. Taikan Oki in the same group who pioneered atmospheric water budget analysis in 1990s.

I personally met Dr. Victor Pellet in June 2018 when I visited LERMA in Observatorie de Paris for the collaborative project on global surface water mapping with Dr. Filipe Aires and Dr. Catherine Prigent. I was impressed by the scientific enthusiasm of Dr. Pellet after giving a seminar in LERMA, and we had discussed about the future collaborations. I realized the combination of my study on global hydrology modelling with his expertise on applied mathematics in hydrology would be very fruitful.

The JSPS/CNRS research project of Dr. Pellet was very challenging and exciting as we found that sub-basin scale water budget analysis using a river network data can generate spatially-distributed river discharge field which cannot be directly measured both by field observations and satellite measurement. He is tackling this problem by extending the mass balance closure method he developed for his Ph.D. study. Sub-basin water budget analysis does not only mean that it produces higher-resolution information, but the true value is that the generated river-related variables can be directly compared with river model simulations, as the same river network map is shared. This is the very big step forward to integrate the satellite water mass balance studies and river modeling studies, because we can perform along-river-network analysis such as flood-wave travel time which cannot be done by point-scale comparison of previous studies.

The long-term research vision of Dr. Pellet is on Mediterranean water cycle monitoring in the context of climate change and water resources reduction, with focus on three cutting-edge science challenges: 1) Long-term terrestrial water storage change, 2) Groundwater flow estimate, and 3) Evaporation over inundated area. If these questions are crucial for the Mediterranean region in the context of climate change, his work will contribute to better understand the global hydrology. With his expertise in applied mathematics and satellite hydrology, I have no doubt that he will contribute to tackle this burning issues and lead research on hydro-climatology at CNRS. I hope his research career as a JSPS/CNRS Fellow in Japan would be a great experience to help him obtain this permanent position.

Sincerely yours,

Dai Yamazaki

Dai Yamazaki, Ph.D
Associate Professor
Institute of Industrial Science

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