

NAME: Tiantian Yang

POSITION TITLE & INSTITUTION: Assistant Professor & University of Oklahoma Norman Campus

A. PROFESSIONAL PREPARATION - (see [PAPPG Chapter II.C.2.f.\(i\)\(a\)](#))

INSTITUTION	LOCATION	MAJOR/AREA OF STUDY	DEGREE (if applicable)	YEAR (YYYY)
University of California Irvine	Irvine, CA	Civil Engineering/Water Resources	Doctor of Philosophy	2015
University of California Irvine	Irvine, CA	Mechanical Engineering/System Optimization	Master of Science	2010
Tsinghua University	Beijing, China	Mechanical Engineering	Bachelor of Science	2009

B. APPOINTMENTS - (see [PAPPG Chapter II.C.2.f.\(i\)\(b\)](#))

From - To	Position Title, Organization and Location
2018 - present	Assistant Professor, School of Civil Engineering and Environmental Sciences, the University of Oklahoma, Norman, OK, United States
2015 - 2018	Research Scientist III, Deltares USA Inc, Silver Spring, MD, United States
2010 - 2015	Graduate Research Assistant, Department of Civil and Environmental Engineering, the University of California Irvine, Irvine, CA, United States
2005 - 2009	Undergrad Research Assistant, Tsinghua University, Beijing, China

C. PRODUCTS - (see [PAPPG Chapter II.C.2.f.\(i\)\(c\)](#)) Products Most Closely Related to the Proposed Project

1. Yang T, AA Asanjan, E Welles, X Gao, S Sorooshian, X Liu. (2017) Developing reservoir monthly inflow forecasts using artificial intelligence and climate phenomenon information. *Water Resources Research*; 53 (4), 2786-2812

2. Zhang, L., Yang, T., Gao, S., Hong, Y., Zhang, Q., Wen, X., & Cheng, C. (2022). Improving subseasonal-to-seasonal forecasts in predicting the occurrence of extreme precipitation events over the contiguous US using machine learning models. *Atmospheric Research*, 106502.

3. Yang T, Gao X, Sorooshian S, Li X. Simulating California reservoir operation using the classification and regression-tree algorithm combined with a shuffled cross-validation scheme. (2017) *Water Resources Research*; 52 (3):1626-1651.

4. Yang, T., Zhang, L., Kim, T., Hong, Y., Zhang, D., & Peng, Q. (2022). A large-scale comparison of Artificial Intelligence and Data Mining (AI&DM) techniques in simulating reservoir releases over the Upper Colorado Region. *Journal of Hydrology*, 602, 126723.

5. Zhang, L., Kim, T., Yang, T., Hong, Y. and Zhu, Q., (2022). Evaluation of Subseasonal-to-Seasonal (S2S) precipitation forecast from the North American Multi-Model ensemble phase II (NMME-2) over the contiguous US. *Journal of Hydrology*, 603, p.127058.

Other Significant Products, Whether or Not Related to the Proposed Project

1. Yang, T., Asanjan, A. A., Farizad, M., Hayatbini, N., Gao, X., & Sorooshian, S. (2017). An enhanced artificial neural network with a shuffled complex evolutionary global optimization with principal component analysis. *Information Sciences*, 418, 302-316.
2. Yang T, K Hsu, Q Duan, S Sorooshian, C Wang, (2019) Method to Estimate Optimal Parameters, In Springer Handbook Series "Handbook of Hydrometeorological Ensemble Forecasting", 1-39
3. Akbari Asanjan, A., Yang, T., Hsu, K., Sorooshian, S., Lin, J., & Peng, Q. (2018). Short-term precipitation forecast based on the PERSIANN system and LSTM recurrent neural networks. *Journal of Geophysical Research: Atmospheres*, 123(22), 12-543.
4. Kim, T., Yang, T., Gao, S., Zhang, L., Ding, Z., Wen, X., Hong, Y. (2021). Can artificial intelligence and data-driven machine learning models match or even replace process-driven hydrologic models for streamflow simulation?: A case study of four watersheds with different hydro-climatic regions across the CONUS. *Journal of Hydrology*, 598, 126423.
5. (ESI Highly Cited) Liu, X., Yang, T., Hsu, K., Liu, C., & Sorooshian, S. (2017). Evaluating the streamflow simulation capability of PERSIANN-CDR daily rainfall products in two river basins on the Tibetan Plateau. *Hydrology and Earth System Sciences*, 21(1), 169-181.

D. SYNERGISTIC ACTIVITIES - (see PAPPG Chapter II.C.2.f.(i)(d))

1. Consultant for the National Weather Service's 13 river forecast center, and developers of hydrologic, reservoir and hydropower dispatch models for Bonneville Power Administration (2015-2018). This activity allows PI to have gained in-depth knowledge of operation models and the practical needs for innovative research and science.
2. Associate Director, OU Hydrology and Water Security (HWS) online master program (2018-present). The experience will facilitate the dissemination of research and transform relevant technologies into education.
3. Member, CERC-WET Industrial Advisory Board (2018-present). This activity helps the proposed research to meet the needs from private sectors and outcomes to be exposed to additional private sectors and stakeholders.
4. Member and technical committee for American Geophysical Union; Panel Reviewer for DOE, USGS, NSF and Oklahoma Water Resources Board (2017-present). These activities will allow PI to interact with professional communities to broaden the research impacts and connect with related audiences and communities.
5. University of Oklahoma Provost Office Presidential Dream Course Instructor for "CEES4373/5373 Water Resources Management" (2019-2020). This experience enables PI to help both undergraduate and graduate students to be connected to professional experts in the fields, and access to future job opportunities for career development.