

**NSF BIOGRAPHICAL SKETCH**

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**IDENTIFYING INFORMATION:**


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NAME: Liu, Lu

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POSITION TITLE: Department of Civil, Construction and Environmental Engineering, Assistant Professor

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ORGANIZATION AND LOCATION: Iowa State University, Ames, IA, United States

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**Professional Preparation:**

ORGANIZATION AND LOCATION	DEGREE (if applicable)	DATE RECEIVED	FIELD OF STUDY
University of Maryland, College Park, Maryland, USA	PHD	12/2017	Civil Engineering
University of Oklahoma, Norman, Oklahoma, USA	MS	05/2012	Environmental Science
University of Oklahoma, Norman, Oklahoma, USA	BS	05/2010	Environmental Science

**Appointments and Positions**

2021 - present Department of Civil, Construction and Environmental Engineering, Assistant Professor, Iowa State University, Ames, IA, United States

2020 - 2021 Research Associate, Houston Advanced Research Center, THE WOODLANDS, TX, United States

2018 - 2020 Postdoctoral Research Associate, Department of Civil and Environmental Engineering, Rice University, Houston, TX, United States

2014 - 2017 Graduate Research Assistant, University of Maryland, College Park, MD, United States

2012 - 2014 Research Associate, Joint Global Change Research Institute, College Park, MD, United States

2010 - 2012 Graduate Research Assistant, University of Oklahoma, Norman, OK, United States

**Products****Products Most Closely Related to the Proposed Project**

1. Liu L, Hejazi M, Li H, Forman B, Zhang X. Vulnerability of US thermoelectric power generation to climate change when incorporating state-level environmental regulations. *Nature Energy*. 2017 July 10; 2(8):- . Available from: <https://www.nature.com/articles/nenergy2017109>  
DOI: 10.1038/nenergy.2017.109
2. Liu L, Hejazi M, Iyer G, Forman B. Implications of water constraints on electricity capacity

expansion in the United States. *Nature Sustainability*. 2019 February 25; 2(3):206-213. Available from: <https://www.nature.com/articles/s41893-019-0235-0> DOI: 10.1038/s41893-019-0235-0

3. Liu L, Lopez E, Dueñas-Osorio L, Stadler L, Xie Y, Alvarez P, Li Q. The importance of system configuration for distributed direct potable water reuse. *Nature Sustainability*. 2020 April 27; 3(7):548-555. Available from: <https://www.nature.com/articles/s41893-020-0518-5> DOI: 10.1038/s41893-020-0518-5
4. Liu L, Parkinson S, Gidden M, Byers E, Satoh Y, Riahi K, Forman B. Quantifying the potential for reservoirs to secure future surface water yields in the world's largest river basins. *Environmental Research Letters*. 2018 April 01; 13(4):044026-. Available from: <https://iopscience.iop.org/article/10.1088/1748-9326/aab2b5> DOI: 10.1088/1748-9326/aab2b5
5. Zhou X, Duenas-Osorio L, Doss-Gollin J, Liu L, Stadler L, Li Q. Mesoscale Modeling of Distributed Water Systems Enables Policy Search. *Water Resources Research*. 2023 May 02; 59(5):- . Available from: <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022WR033758> DOI: 10.1029/2022WR033758

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

1. Kim S, Hejazi M, Liu L, Calvin K, Clarke L, Edmonds J, Kyle P, Patel P, Wise M, Davies E. Balancing global water availability and use at basin scale in an integrated assessment model. *Climatic Change*. 2016; 136(2):217-231. Available from: <http://link.springer.com/10.1007/s10584-016-1604-6> DOI: 10.1007/s10584-016-1604-6
2. Liu L, Hong Y, Bednarczyk C, Yong B, Shafer M, Riley R, Hocker J. Hydro-Climatological Drought Analyses and Projections Using Meteorological and Hydrological Drought Indices: A Case Study in Blue River Basin, Oklahoma. *Water Resources Management*. 2012; 26(10):2761-2779. Available from: <http://link.springer.com/10.1007/s11269-012-0044-y> DOI: 10.1007/s11269-012-0044-y
3. Hejazi M, Voisin N, Liu L, Bramer L, Fortin D, Hathaway J, Huang M, Kyle P, Leung L, Li H, Liu Y, Patel P, Pulsipher T, Rice J, Tesfa T, Vernon C, Zhou Y. 21st century United States emissions mitigation could increase water stress more than the climate change it is mitigating. *Proceedings of the National Academy of Sciences*. 2015 August 03; 112(34):10635-10640. Available from: <https://pnas.org/doi/full/10.1073/pnas.1421675112> DOI: 10.1073/pnas.1421675112
4. Liu L, Hong Y, Hocker J, Shafer M, Carter L, Gourley J, Bednarczyk C, Yong B, Adhikari P. Analyzing projected changes and trends of temperature and precipitation in the southern USA from 16 downscaled global climate models. *Theoretical and Applied Climatology*. 2012; 109(3-4):345-360. Available from: <http://link.springer.com/10.1007/s00704-011-0567-9> DOI: 10.1007/s00704-011-0567-9
5. Liu L, Hong Y, Looper J, Riley R, Yong B, Zhang Z, Hocker J, Shafer M. Climatological Drought Analyses and Projection Using SPI and PDSI: Case Study of the Arkansas Red River Basin. *Journal of Hydrologic Engineering*. 2013 July; 18(7):809-816. Available from: <https://ascelibrary.org/doi/10.1061/%28ASCE%29HE.1943-5584.0000619> DOI: 10.1061/(ASCE)HE.1943-5584.0000619

**Synergistic Activities**

1. Editorial Board member for the peer-reviewed journal, Energy and Climate Change.
2. Guest editor for Special Issues in the Journal of Hydrology.
3. Served on the conference committee for 2022 International Symposium on Sustainable Systems and Technology.
4. Organized and co-hosted 2019 US-China Environmental Scholars Forum in Rice University.
5. LEAD E-Mentor for one female student in Elizabeth Seton High School, Maryland.

**Certification:**

When the individual signs the certification on behalf of themselves, they are certifying that the information is current, accurate, and complete. This includes, but is not limited to, information related to domestic and foreign appointments and positions. Misrepresentations and/or omissions may be subject to prosecution and liability pursuant to, but not limited to, 18 U.S.C. §§ 287, 1001, 1031 and 31 U.S.C. §§ 3729-3733 and 3802.

Certified by Liu, Lu in SciENcv on 2023-05-08 15:51:17