

Xin Huang, PhD

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EDUCATION

Northern Arizona University (<i>Flagstaff, USA</i>)	present
Ph.D., School of Informatics, Computing and Cyber Systems Advisors: Dr. Yiqi Luo and Dr. Michael Gowanlock	
Tsinghua University (<i>Beijing, China</i>)	2018
M.Sc., Department of Computer Science and Technology. Advisors: Dr. Weimin Zheng and Dr. Wei Xue	
University of Electronic Science and Technology (<i>Chengdu, China</i>)	2014
B.Sc., School of Software Engineering	

RESEARCH INTERESTS

- Uncertainty quantification of terrestrial system models
 - Tree growth simulation response to global climate changes
 - Sensitivity analysis of uncertain parameters
 - Ensemble prediction
- High performance computation for scientific applications
 - Parallel algorithms design to adapt to heterogeneous processors

SELECTED PUBLICATIONS

1. **Xin Huang**, Qianyu Li, Yiqi Luo, Wei Xue. An improved parameter screening method based on sensitivity analysis[J]. Application of Electronic Technique (Chinese).
2. **Xin Huang**, Wei Xue, Yiqi Luo et al. Can we really screen out the most important parameters of Earth System Model with sensitivity analysis? AGU Fall Meeting 2016; poster.
3. Haoyu Xu, Tao Zhang, Yiqi Luo, Wei Xue, **Xin Huang**. Parameter Calibration in Global Land Carbon Models Using Surrogate and Global Optimization[J]. Geoscientific Model Development, 2018, 11: 3027-3044.
4. Qianyu Li, Xingjie Lu, Yingping Wang, **Xin Huang**, Yiqi Luo. Leaf Area Index identified as a major source of uncertainty in modelled CO₂ fertilization[J]. Biogeosciences, 2018, 15: 6909–6925.
5. **Xin Huang**, Qianyu Li, Tao Zhang, Yiqi Luo, Wei Xue. Are quantitative sensitivity analysis methods always reliable in parameter screening? AGU Fall Meeting, 2016, poster.
6. Tao Zhang, Lijuan Li, Yanluan Lin, Wei Xue, **Xin Huang**. An automatic and effective parameter optimization method for model tuning[J]. Geoscientific Model Development, 2015, 8: 3791-3822.

ACADEMIC APPOINTMENTS

Research Assistant, Center for Ecosystem Science and Society, Northern Arizona University (*Flagstaff, USA*) 08/2018 - present

- 08/2019 – 12/2019, A Non-intrusive Data Assimilation Module for General Ecological Models
- 12/2018 – 05/2019, Deep Learning for Drought Forecasting

Research Assistant, High Performance Computing Institute, Tsinghua University (*Beijing, China*) 09/2014 – 07/2018

- 10/2016 - 06/2018, Global Change and Response Program: Development and Assessment of Seamless Climate Prediction System Based on High Resolution Climate System Model
- 09/2016 - 11/2016, Design of a parameterization scheme and a diagnostic scheme for Single Column Atmospheric Model (SCAM) at Tropical Warm Pool International Cloud Experimental (TWP-ICE) site
- 10/2015 - 06/2016, Design of a Dynamic Sensitivity Analysis Method (DSAM) for parameter screening
- 06/2014 - 07/2015, Parameter uncertainty analysis in Grid-point Atmospheric Model of IAP LASG version 2 (GMAIL2)
- 08/2015 - 07/2018, Management and maintenance of high-performance computers (cluster with 16 computing nodes) in our lab
- 08/2015 - 07/2018, Development experience on Sunway TaihuLight, Tianhe 2

AWARDS

Schlumberger Earth Sciences Scholarship	2017
The Outstanding Graduate in Sichuan Province	2014
National Scholarship	2013
National Encouragement Scholarship	2012
The Top-Class People Scholarship	2011

SKILLS

Programming and Tools: C/C++, Fortran, MATLAB, Python, R, Java, Shell, HTML/CSS, OpenMP and MPI, Latex, Git, PyGUI, Docker

Quantitative analysis and Visualizations: Bayesian Statistics, Markov Chain Monte Carlo (MCMC), Convolutional Gated Recurrent Network (convGRU), Machine Learning, Numerical Optimization, Geographic information system (GIS), Design of experiments (DOE)