Dhruva Kathuria

Contact Information	333 Spence St, Scoates Hall, 2117 TAMU, College Station, Texas 77843	e-mail: kathuria.dhruva@tamu.edu
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Research Interests: Remote sensing, Hydrology, Multi-scale data fusion, Non-stationarity, Spatio-temporal statistics for massive datasets

Education

Texas A&M University, Texas, USA
Ph.D. in Biological and Agricultural Engineering
Advisor: Prof. Binayak P. Mohanty
September 2015 - present
Dissertation: *Multi-scale data fusion in hydrology using Bayesian hierarchical modeling and machine learning algorithms.*
CGPA: 3.8/4.0

Indian Institute of Science, India
Masters Degree ***(Distinction)*** *in Civil Engineering (Water Resources)*
September 2013 - May 2015
Thesis: *Uncertainty in design hydrographs for urban stormwater systems using interval theory.*

Punjab Engineering College, India
Bachelor of Technology in Civil Engineering
August 2008 - May 2012

Professional Experience

Research Assistant **September 2015 - August 2018**

Texas A&M university, College Station, TX, US

Teaching Assistant **September 2018 - December 2018**

Texas A&M university, College Station, TX, US

Taught bi-weekly Python labs, held office hours and graded homeworks and quizzes for an undergraduate level course

Research Assistant **January 2019 - Present**

Texas Water Research Institute, Texas A&M university, College Station, TX, US

Working with Texas Water Research Institute to develop a novel statistical algorithm for interpolating evapotranspiration across USA using sparse weather station data and satellite retrievals. The project will result in the development of a web-based app providing daily ET maps and irrigation schedules for end-users

Publications

Kathuria, D., Mohanty, B. P. and Katzfuss, M. (2019). A nonstationary geostatistical framework for soil moisture prediction in the presence of surface heterogeneity. *Water Resources Research*. doi: 10.1029/2018WR023505

Kathuria, D., Mohanty, B. P. and Katzfuss, M. (2018+). Multiscale data fusion for soil moisture estimation: a spatial hierarchical approach (under revision in *Water Resources Research*, 2018WR024581).

Mao, H., Kathuria, D., Duffield, N and Mohanty, B. P. (2019+). Gap Filling of High-Resolution Soil Moisture for SMAP/Sentinel-1: A Two-layer Machine Learning-based Framework with Spatial/Temporal Transfer Learning (under review in *Water Resources Research*, 2019WR024902, preprint: doi: 10.31223/osf.io/ce865)

Conference Proceedings

Kathuria, D., Mohanty, B. P. and Katzfuss, M. (2015). Prediction of surface soil moisture in big data setting, Big Data Conference, TAMU
Kathuria, D., Mohanty, B. P. and Katzfuss, M. (2016). Bayesian Hierarchial Modeling for big data fusion in soil hydrology, AGU Fall Meeting, 2016
Kathuria, D., Mohanty, B. P. and Katzfuss, M. (2017). Soil moisture fusion across scales uing a multiscale nonstationary Spatial Hierarchical Model, AGU Fall Meeting, 2017.
Kathuria, D., Mohanty, B. P. and Katzfuss, M. (2018). A non-stationary multi-scale data fusion framework for soil moisture estimation, AGU Fall Meeting, 2018.

Field Activities

Installed soil moisture theta probes, solar panels and ground-water sensors as a member of the Texas Water Observatory (TWO).
Setup and calibrated a non-contact discharge radar (RQ-30) using Q-commander and installed the radar on the field.

Service & Outreach

Reviewer for **Vadose Zone Journal**.
As a member of the Aggie Graduate and Professional Community Club (AGPCC), mentored an undergraduate student at Texas A&M for her research in improving drinking water quality in Africa, 2017.
Volunteer in the Big Event, the biggest student run service program in USA, 2018

Honours and Awards

Secured All India Rank **126** in Graduate Aptitude Test Engineering (GATE). **2013**

Received scholarship to pursue graduate studies from the **Ministry of Human Resources and Development**, Government of India. **2013-2015**

Received scholarship from **Deutscher Akademischer Austauschdienst (DAAD)** to attend summer school at the University of Stuttgart, Germany **2014**

BAEN Graduate Student Travel Award **2018**

Leadership Experience

Student Council Member, *Punjab Engineering College* **2011-2012**
Took lead in passing resolutions on non-increase of Student tuition. Held meetings with University administration throughout the year on student related issues.

Secretary, **BAEN Graduate Student Association** *Texas A&M University*, **2018-present**
Conceptualized **Ag-Café**, the first graduate-student mixer of the department promoting multi-disciplinary collaboration among students. Organized various social events throughout the year.

Student representative, **BAEN Graduate Student Committee** *Texas A&M University*, **2018-present**
Met with BAEN faculty to provide recommendations for future Graduate student recruitment and facilities development.