

# MEENU RAMADAS

Assistant Professor, School of Infrastructure, IIT Bhubaneswar, Odisha, India

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## EDUCATION

- 2011-2015*      **Doctor of Philosophy**  
Purdue University, Indiana, USA  
Thesis : Probabilistic Models for Droughts: Applications in Trigger Identification,  
Predictor Selection and Index Development  
Area : Civil Engineering – Hydraulics and Hydrology  
Advisor : Dr. Rao S Govindaraju  
CGPA : 4.0 / 4.0
- 2009-2011*      **Master of Engineering**  
Indian Institute of Science, Bangalore, Karnataka, India  
Thesis : Hydrological Modelling and Assessment of Impact of Climate Change: Case  
Study of the Tungabhadra Basin  
Area : Civil Engineering – Water Resources and Environmental Engineering  
Advisor : Dr. Pradeep Mujumdar  
CGPA : 7.3 / 8.0
- 2005-2009*      **Bachelor of Technology**  
College of Engineering, Trivandrum (Kerala University), Kerala, India  
Thesis : Tensile and Pull Out Tests on Coir Geotextiles  
Area : Civil Engineering  
Advisor : Dr. Ajitha Bhaskar  
CGPA : 8.4 / 10

## HONOURS & AWARDS

- 2015*              G. M. Nawathe Puraskar 2015  
Award for the best paper presented at HYDRO 2014: 19th International  
Conference on Hydraulics, Water Resources and River Engineering conducted by  
the Indian Society for Hydraulics.
- 2015*              Estus H. and Vashti L. Magoon Award for Excellence in Teaching  
Recipient from Lyles School of Civil Engineering, awarded by the College of  
Engineering, Purdue University to honor outstanding teaching assistants and instructors
- 2014,*  
*2012*              Jacques W. Delleur Award  
Awarded to graduate students in the environmental area doing research on a topic related  
to hydraulics, hydromechanics, surface or ground water hydrology or water resources  
engineering, in Purdue University

## TEACHING & RESEARCH INTERESTS

Drought Modeling

Surface Water Hydrology

Hydro-climatology

- Downscaling
- Drought studies
- Climate Change Impact Assessment

Fluid Mechanics & Open Channel Hydraulics

Water Resources Engineering

Stochastic Hydrology

Water Quality Modelling

Groundwater Hydrology

Applications of Remote Sensing and GIS

Probability and Statistics

- Graphical models – hidden Markov models
- Copulas
- Bayesian statistics

## TEACHING EXPERIENCE

*Spring 2016* Faculty, School of Infrastructure, IIT Bhubaneswar, Odisha  
Course Instructor, CE2L011 Building Materials and Construction

*Monsoon 2015* Faculty, Department of Civil Engineering, NIT Calicut, Kerala  
Course Instructor, CE 4003 Water Resources Engineering II  
Lab-in-Charge, ZZ1091 Civil Engineering Workshop

*Spring 2015,* Course Instructor, Purdue University, USA  
*Spring 2014* Course Title: CE 343 – Hydraulics Lab

*Spring 2014* Teaching Assistant, Purdue University, USA  
Course Title: CE 340 – Hydraulics taught by Dr. Dennis Lyn

## JOURNAL PUBLICATIONS

1. Ramadas Meenu, Rehana, S., and Mujumdar, P. P. (2012). "Assessment of hydrologic impacts of climate change in Tunga-Bhadra River Basin, India with HEC-HMS and SDSM." *Hydrological Processes*, 27(11), 1572–1589. doi: 10.1002/hyp.9220.
2. Maity, R., Ramadas, M., and R. S. Govindaraju (2013). "Identification of hydrologic drought triggers from hydroclimatic predictor variables." *Water Resources Research*, 49, 4476–4492, doi:10.1002/wrcr.20346.
3. Ramadas, M., Maity, R., Ojha, R., and Govindaraju, R. S. (2015). "Predictor selection for streamflows using a graphical modeling approach." *Stochastic Environmental Research and Risk Assessment*, 29(6), 1583–1599. doi: 10.1007/s00477-014-0977-1.

4. Ramadas, M., and Govindaraju, R. S. (2015). "Probabilistic assessment of agricultural droughts using graphical models." *Journal of Hydrology*, 526, 151-163. doi:10.1016/j.jhydrol.2014.09.026.
5. Ramadas, M., Ojha, R., and Govindaraju, R. (2015). "Current and future challenges in groundwater II. Water quality modeling." *Journal of Hydrologic Engineering*, Special Issue: Grand Challenges in Hydrology, A4014008. doi:10.1061/(ASCE)HE.1943-5584.0000936.
6. Ojha, R., Ramadas, M., and Govindaraju, R. (2015). "Current and future challenges in groundwater I. Modeling and management of resources." *Journal of Hydrologic Engineering*, Special Issue: Grand Challenges in Hydrology, A4014007. doi:10.1061/(ASCE)HE.1943-5584.0000928.
7. Ramadas, M., and Govindaraju, R. S. (2015) "Choice of hydrologic variables for probabilistic drought classification." *Journal of Irrigation and Drainage Engineering*, 05015013, doi: 10.1061/(ASCE)IR.1943-4774.0000981.
8. Ramadas, M., Ojha, C. S. P., and Govindaraju, R. S. "Analytical models of infiltration and redistribution for unsaturated flow in soils with vertically non-uniform saturated hydraulic conductivity." (Accepted to ISH Journal of Hydraulic Engineering in December 2015)

## CONFERENCES

1. Ramadas, M., and Govindaraju, R. S. (2014) *A new index for agricultural droughts based on crop needs and available soil moisture*. In HYDRO 2014 International, Paper Id: HYDRO2014\_194, MANIT, Bhopal, India. Dec. 18-20, 2014.
2. Ramadas, M., Chaubey, I., Niyogi, D., Song, C. X., and Govindaraju, R. S. (2014) *Probabilistic assessment of agricultural droughts using graphical models*. In 69th SWCS International Annual Conference, Lombard, IL. July 27-29, 2014.
3. Ramadas, M., and Govindaraju, R. S. (2014) *Probabilistic assessment of agricultural droughts using graphical models*. In 2014 Hydro-Climatic Symposium on Modeling Climate Change, Id: 478, 2014 World EWRI Congress, Portland, OR. June 1-5, 2014.
4. Ramadas, M., Maity, R., Chaubey, I., Niyogi, D., Song, C. X., Nendunuri, K. V., and Govindaraju, R. S. (2013) *Identification of hydrologic drought triggers from hydro-climatic predictor variables*. Poster presented at the 2013 SWCS International Annual Conference, Reno, NV. July 21-24, 2013.
5. Ramadas, M. and Govindaraju, R.S. (2013) *Unsaturated flow in vertically non-uniform soils: derivation of sharp front models for infiltration and redistribution*. In 11th Symposium on Groundwater Hydrology, Quality and Management, Abstract Id: 382, 2013 World Environmental and Water Resources Congress, Cincinnati, OH. May 19-23, 2013.
6. Ramadas, M., Maity, R., and Govindaraju, R. S. (2012) *Dimensionality reduction in hydro-climatic variables for probabilistic streamflow prediction using a hybrid approach*. In Hydro-

climate Symposium, Abstract Id: 632, World Environmental and Water Resources Congress, Albuquerque, NM. May 20-24, 2012.

7. Ramadas, M., and Mujumdar, P. P. (2012) *Assessment of hydrologic impacts of climate change in Tunga-Bhadra River Basin, India with HEC-HMS and SDSM*. Poster presented at the 2012 World Environmental and Water Resources Congress, Albuquerque, NM. May 20-24, 2012.
8. Chaubey, I., Ramadas, M., Mallya, G., Ojha, R., Govindaraju, R. S., Niyogi, D., Song, C. X., and Nendunuri, K.V. (2012) *Development of drought triggers for agricultural applications*. Poster presented at the 2012 Land Grant and Sea Grant National Water Conference, Portland, OR. May 20-24, 2012.

### PROFESSIONAL MEMBERSHIPS

2014-Present Associate Member, American Society of Civil Engineers (ASCE)  
2013-2015 Student Member, Soil and Water Conservation Society (SWCS)  
2012-2015 Member, Purdue Water Community

### SOFTWARE PROFICIENCY

MATLAB, R  
ArcGIS, HEC-HMS, SDSM, SWAT, EPANET, QUAL-2K, HYDRUS, AUTOCAD  
Microsoft Office