

KIRONMALA CHANDA

Assistant Professor, Department of Civil Engineering
Indian Institute of Technology (Indian School of Mines), Dhanbad,
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EDUCATIONAL BACKGROUND

- **Doctor of Philosophy (Ph D)**
Department of Civil Engineering, Indian Institute of Technology Kharagpur, West Bengal, India, 2016.
Title of PhD Thesis: Characterization and Hydroclimatic Prediction of Droughts in the Context of Changing Climate
- **Master of Technology (MTech)**
Department of Civil Engineering, Indian Institute of Technology Kharagpur, West Bengal, India, 2011.
Title of M. Tech Dissertation: Assessment of Probabilistic Dependence of Rainfall and Streamflow on Outgoing Longwave Radiation using Plackett Copula
- **Bachelor of Engineering (B.E.)**
Department Civil Engineering, Jadavpur University, Kolkata, India, 2007.

PUBLICATIONS

Peer Reviewed Journals

1. **Chanda, K.** and Maity, R. (2017), Assessment of Trend in Global Drought Propensity in the Twenty-First Century Using Drought Management Index, *Water Resources Management*, 31: 1209. doi:10.1007/s11269-017-1571-3.
2. **Chanda, K.** and Maity, R. (2015), Meteorological Drought Quantification with Standardized Precipitation Anomaly Index (SPA) for the Regions with Strongly Seasonal and Periodic Precipitation, *Journal of Hydrologic Engineering*, ASCE, 10.1061/(ASCE)HE.1943-5584.0001236, 06015007-1 to 06015007-7.
3. **Chanda, K.** and Maity, R. (2016), "Closure to "Meteorological Drought Quantification with Standardized Precipitation Anomaly Index for the Regions with Strongly Seasonal and Periodic Precipitation" by Kironmala Chanda and Rajib Maity." *Journal of Hydrologic Engineering*, 10.1061/(ASCE)HE.1943-5584.0001369, 07016004.
4. **Chanda, K.** and Maity, R. (2015), Uncovering Global Climate Fields Causing Local Precipitation Extremes, *Hydrological Sciences Journal*, Taylor and Francis, DOI: 10.1080/02626667.2015.1006232.
5. **Chanda, K.**, Maity, R., Sharma, A. and Mehrotra, R. (2014), Spatiotemporal variation of long-term drought propensity through reliability-resilience-vulnerability based Drought Management Index, *Water Resources Research*, AGU, 50(10), DOI: 10.1002/2014WR015703, 7662–7676.
6. Maity, R, Sharma, A., Nagesh Kumar D and **Chanda, K.** (2013), Characterizing drought using the reliability-resilience-vulnerability concept, *Journal of Hydrologic Engineering*, ASCE 18(7), 859–869.

7. Maity, R., Aggrawal, A. and **Chanda, K.** (2015), Do CMIP5 models hint at a warmer and wetter India in the twenty-first century?, *Journal of Water and Climate Change*, DOI: 10.2166/wcc.2015.126.

Book Chapter

8. **Chanda, K.** and Maity, R. (2017), Global Climate Pattern Behind Hydrological Extremes in Central India, In *Climate Change Impact (ICWEES 2016)*, Springer.
9. Maity, R. and **Chanda, K.** (2015), Potential of Genetic Programming in Hydroclimatic Prediction of Droughts: An Indian Perspective, *Handbook of Genetic Programming Applications*, Springer, DOI: 10.1007/978-3-319-20883-1_15, 381-398.

Conferences

10. Kumar, S., **Chanda, K.** and Pasupuleti, S. (2019), Gridwise Analysis of Trends in Precipitation and Temperature Indices for Climate Change Detection across India, EGU General Assembly 2019, April 7-12, 2019, Vienna, Austria, abstract accepted.
11. Kumar, S., **Chanda, K.** and Pasupuleti, S. (2018), Influence of Air Temperature on Local Precipitation Extremes across India, HYDRO 2018, Dec 19-21, 2018, NIT Patna, accepted for oral presentation.
12. **Chanda K.** and Maity R. (2018), Spatio-temporal Variation of Soil Moisture Drought Propensity at the Continental Scale over the 21st century, EGU General Assembly 2018, April 8-13, 2018, Vienna, Austria, abstract accepted for oral presentation.
13. **Chanda K.** and Maity R. (2018), Trivariate Probabilistic Assessment of Meteorological Drought to Develop Drought Severity Maps, AOGS 15th Annual Meeting, June 3-8, 2018, Honolulu, Hawaii, USA, abstract accepted for oral presentation.
14. **Chanda K.** and Maity R. (2016). Identification of Distinct Global Climate Patterns behind Hydrological Extremes in North-Eastern and Western India, International Conference on Sustainable Built Environment, Kandy, Sri Lanka, Dec 16-18, 2016, accepted for oral presentation.
15. **Chanda K.** and Maity R. (2015). Global Climate Pattern behind Hydrological Extremes in Central India, International Conference on Water, Environment, Energy and Society (ICWEES-2016), Bhopal, India, March 15-18, 2016, accepted for oral presentation.
16. **Chanda K.** and Maity, R. (2015), Assessment of Trend in Drought Propensity across the Globe Using GCM Projections, AGU Joint Assembly, 3-7 May 2015, Abstract ID: 34864, Final paper No. AS13B-02, Montreal, Canada, accepted for oral presentation.
17. Maity R., **Chanda K.**, Nagesh Kumar D., Sharma A. and Mehrotra R., (2014). Potential of the Reliability-Resilience-Vulnerability (RRV) based Drought Management Index (DMI), AGU Fall Meeting, December 15-19, 2014, San Francisco, USA, accepted for poster presentation.
18. **Chanda K.** and Maity R., (2013). Variation of Reliability-Resilience-Vulnerability based Drought Management Index (DMI) for Mahanadi Basin, National conference on Sustainable Water Resources Planning, Management and Impact of Climate Change, April 5-6, 2013, BITS, Pilani, Hyderabad Campus, India.
19. **Chanda K.** and Maity R., (2012). Influence of Local Hydrometeorological Variables on Basin Scale Drought Status, 5th International Congress of Environmental Research (ICER), Nov, 22-24, 2012, Universiti Malaysia Terengganu (UMT), Terengganu, Malaysia.

20. Maity R. and **Chanda K.**, (2012). Spatio-temporal Analysis of Drought Predictability across India, 5th International Congress of Environmental Research (ICER), Nov, 22-24, 2012, Universiti Malaysia Terengganu (UMT), Terengganu, Malaysia.
21. Maity R. and **Chanda K.**, (2011). Probabilistic Prediction of Streamflow using the information of Outgoing Longwave Radiation through Plackett Copula, International Conference on Sustainable Water Resources Management and Climate Change Adaptation, Feb 17-19, 2011, National Institute of Technology, Durgapur, India.

ACADEMIC ACHIEVEMENTS

- Awarded DAAD fellowship under 'Bilateral Exchange of Academics 2018' for two month research visit to Karlsruhe Institute of Technology, IMK-IFU, Campus Alpin, Germany.
- Awarded Sarada Memorial medal for being 'Best Performer' in the elective group 'Environmental Engineering' in B.Tech (2007) in Jadavpur University
- Topper in the specialization 'Hydraulics and Water Resources Engineering' in M.Tech (2011) in IIT Kharagpur

ACADEMIC VISITS

Visited the University of New South Wales (UNSW), Sydney, Australia as part of the Practicum Student Exchange Programme during May-June 2012 (6 weeks)

EMPLOYMENT

- Organisation: Indian Institute of Technology (Indian School of Mines) Dhanbad (June 2016 – till now), Designation: Assistant Professor
- Organisation: Tata Consultancy Services Ltd. (Oct 2007 to July 2009), Designation: Assistant Systems Engineer Trainee (first 1 year) and Assistant Systems Engineer (next 10 months).

ACADEMIC WORK EXPERIENCE

Teaching Responsibilities

Monsoon Semester	Winter Semester
2016-17	
<ol style="list-style-type: none"> 1. Building Materials, Construction and Estimation – for 2nd year B. Tech 2. Advanced Open Channel Flow Sessional – for 3th year B. Tech 3. Estimation practical – for 3th year B. Tech 4. Water Resources Engineering Lab – for 4th year B. Tech 	<ol style="list-style-type: none"> 1. Hydraulics and Hydraulic Machines – for 2nd year B. Tech students 2. Hydraulics and Hydraulic Machines practical – for 2nd year B. Tech students 3. Water Resources Engineering (minor) – for 4th year B. Tech of other departments
2017-18	

<ol style="list-style-type: none"> 1. Water Resources Engineering – for 4th year B. Tech students 2. Advanced Open Channel Flow Sessional – for 3th year B. Tech students 3. Water Resources Engineering Lab – for 4th year B. Tech students 	<ol style="list-style-type: none"> 1. Hydraulics and Hydraulic Machines – for 2nd year B. Tech students 2. Hydraulics and Hydraulic Machines practical – for 2nd year B. Tech students
2018-19	
<ol style="list-style-type: none"> 4. Water Resources Engineering – for 4th year B. Tech students 5. Building Materials, Construction and Estimation – for 2nd year B. Tech 6. Advanced Open Channel Flow Sessional – for 3th year B. Tech students 7. Water Resources Engineering Lab – for 4th year B. Tech students 8. Research Methodology and Statistics – for PhD students 	<ol style="list-style-type: none"> 1. Hydraulics and Hydraulic Machines – for 2nd year B. Tech 2. Hydraulics and Hydraulic Machines practical – for 2nd year B. Tech 3. Engineering Graphics – for 1st year B.Tech students

Research Guidance

PhD Guidance (Ongoing)

1. Sachidanand Kumar (joined in Aug 2017) (shared with another faculty member)
2. Prabal Das (joined in July 2018)

M.Tech Guidance (Completed)

1. Rohan Paul (shared with another faculty member)

Research Project (Ongoing)

1. DST-ECR (awarded in July 2018) – Project no. DST-SERB(202)/2018-2019/594/CE (Amount: INR 29.53 lakhs, duration: 3 years)
2. TEQIP III Minor Research Project (Amount: INR 2 lakhs, duration: 2 years)
3. FRS, IIT (ISM) Dhanbad, (Amount: INR 10 lakhs, duration: 3 years)

Administrative Responsibilities

- Professor in charge, Imprest Fund
- Professor in charge, Water Resources Engineering Lab

Others

Have served as a reviewer of technical articles in *Journal of Earth System Science* (Springer), *Stochastic Environmental Research and Risk Assessment* (Springer), *Water Resources Research* (AGU), *SN Applied Sciences* (Springer).

FURTHER INFORMATION

- Have been the vice-captain of a group of 14 students in the 18-day Annual Survey Camp organized by the Civil Engineering Department, Jadavpur University in January 2006.

- Have led a team of 5 members for a 2-day soil sample collection drive in and around the villages near IIT Kharagpur campus as part of the project PMA, funded by Indian Space Research Organization (ISRO) in November 2014.
- Have been a member of the organizing committee of the 'Research Scholars Day' held annually in the Department of Civil Engineering, Indian Institute of Technology Kharagpur for the academic sessions 2012-13 and 2013-14.
- Have worked as a student volunteer for the 'Soil and Water Networking National Workshop' organized jointly by IIT Kharagpur and University of Sydney during Jan 4-7, 2015.
- Have published a travel article 'Call of the Wild' in The Sunday Statesman (issue dated September 22, 2013).

PERSONAL DETAILS

- DOB: January 9, 1985
- Place of Birth: Kolkata, India
- Gender: Female
- Marital status: Married

REFEREES

- Dr. Rajib Maity (my PhD supervisor at IIT Kharagpur)
Associate Professor, Department of Civil Engineering
Indian Institute of Technology Kharagpur, Kharagpur 721302, India
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Email: rajib@civil.iitkgp.ernet.in,rajibmaity@gmail.com
- Prof. Ashish Sharma (host during my academic visit to UNSW, Australia)
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University of New South Wales, Kensington Campus, Sydney, NSW 2052, Australia
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Email: a.sharma@unsw.edu.au
- Prof. Harald Kunstmann (host during my academic visit to KIT-IMK-IFU, Germany)
Deputy Director, Head of Division 'Regional Climate Systems'
KIT-IMK-IFU, Campus Alpin, Germany
Chair for "Regional Climate and Hydrology" at Augsburg University
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