

Dr. Rajib Maity

Associate Professor

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Current Affiliation: Humboldt Fellow, Karlsruhe Institute of Technology (KIT), Campus Alpin - IMK-IFU, Kreuzeckbahnstraße 19, 82467 Garmisch-Partenkirchen, Germany, Ph. No.: +49-8821-183-257 (Office); +49-177-1736092 (Mobile), FAX: +49-8821-73573, E-Mail: rajib.maity@kit.edu (temporary)

1. Research Interests:

- **Broad Research Areas:** Hydroclimatology, Water Resources Engineering, Watershed development.
- **Specific Research Interests:**
 - 1) Hydroclimatology and Hydroclimatic Teleconnection: Large Scale Coupled Circulation Patterns, Hydroclimatic teleconnection, Modeling of Indian Summer Monsoon Rainfall (ISMR) at different spatio-temporal scales, General Circulation Model data analysis – Bias correction and Downscaling
 - 2) Climate Change Impact on Water Resources: Hydroclimatic analysis, Effect of climate change on hydrology and water resources
 - 3) Hydrologic Time Series Analysis and Forecasting: Stochastic analysis of hydrologic variables, Copula theory in hydroclimatic dependence, Probabilistic Prediction and uncertainty quantification
 - 4) Soft Computing Methods in Hydrology: Application of Support Vector Machines (SVM), Artificial Neural Network (ANN), Genetic Algorithm (GA), Evolutionary Optimizer etc. in water resources engineering and management
 - 5) Analysis of Hydrologic Extremes: Droughts and Floods, Assessment of hydroclimatic association, Modeling of drought and flood using hydroclimatic inputs
 - 6) Remote Sensing Applications in Hydrology: Application of remote sensing for soil moisture assessment

2. Academic Background:

- **Doctor of Philosophy (PhD) in 2007:** Department of Civil Engineering, Indian Institute of Science, Bangalore, India

- **Master of Engineering (ME) in 2004:** In ‘Hydromechanics and Water Resources Engineering’ from Department of Civil Engineering, Indian Institute of Science, Bangalore, India in 2004. Topper in Civil Engineering Department, Gold Medalist (CGPA 7.7 out of 8).
- **Bachelor of Engineering (BE) in 1999:** In ‘Civil Engineering’ from Department Civil Engineering, Bengal Engineering College (Deemed University), currently known as Indian Institute of Engineering Science and Technology (IIST), Howrah, West Bengal, India

3. Academic Awards/ Recognitions/Achievements (in reverse chronology):

1. **James Rennell MoES Young Fellow:** Awarded by the Director IIT Kharagpur as per the MoU signed between IIT Kharagpur and Ministry of Earth Sciences (MoES), Govt. of India. The fellowship carries a top up of Rs. 20,000/- per month. Awarded in 2016.
2. **Humboldt Fellowship:** Awarded Humboldt Research fellowship for Experienced Researchers by Alexander von Humboldt Foundation, Germany, in 2015.
3. **Top Teaching Feedback Responses:** Recognition from IIT Kharagpur for Receiving Top Teaching Feedback for the Academic Session 2014-15. (Web Link: <http://www.iitkgp.ac.in/shownews.php?newsid=126>)
4. **Associate Editor:** Invited to join as an Associate Editor for the Journal of Earth System Science (JESS), Published by Springer.
5. **Associate Editor:** Invited to join as an Associate Editor for the ISH Journal of Hydraulic Engineering, published by Taylor and Francis, United Kingdom.
6. **Prof. R. J. Garde Research Award:** Selected by the Executive Council of Indian Society for Hydraulics for the year 2012. The award contains a trophy, citation and cash prize of INR 5000/-.
7. **ASCE 2011 Outstanding Reviewer:** Selected by the Editor of Journal of Hydrologic Engineering, American Society of Civil Engineers (ASCE) in 2012.
8. **Emerging Leaders Fellowship:** Awarded by Australia India Institute at the University of Melbourne, Australia for the year 2011-2012.
9. **BOYSCAST Fellowship:** Awarded BOYSCAST Fellowship by the Department of Science and Technology (DST), Govt. of India for the year 2010-11, in April 2011.
10. **IEI Young Engineers Award:** Awarded by the Institution of Engineers (India) in February 2011.
11. **DAAD fellowship for IIT faculty:** Awarded by German Academic Exchange Service (DAAD) through the program called ‘**Exchange of IIT faculty**’ under memorandum of understanding between the DAAD and IITs for research visit to RWTH Aachen, Germany in May 2010.
12. **Associate Editor:** Selected as Associated Editor for ‘Journal of Civil, Environmental, and Architectural Engineering’ published by ‘Scientific Journals International (SJI)’. (URL: <http://www.scientificjournals.org/>)
13. **International ICE WaRM Fellowship:** Awarded by the ‘International Centre of Excellence in Water Resources Management (ICE WaRM)’, an Australia Government Initiative, in 2008.

14. **Fast Track Project Grant for Young Scientists:** Received from Science and Engineering Research Council (SERC), Department of Science and Technology (DST), Govt. of India in 2007. Grade awarded 'Excellent' (Ref. No. SR/FTP/ETA-26/2007 dated 9th May 2014)
15. **National Doctoral Fellowship:** Awarded by All India Council for Technical Education (AICTE) in 2004.
16. **Prof. N. S. Govinda Rao Memorial Gold Medal and cash prize of INR 2000/-:** Awarded by the council of Indian Institute of Science (IISc) in the year 2003-2004 for being adjudged as the best ME student among all specializations in the Department of Civil Engineering, IISc, Bangalore.
17. Obtained GATE Percentile **99.33** and secured **46th All India Rank** in 2002.
18. **Merit Scholarship:** Awarded by Government of India in 1993 for the performance in board examination at 10th standard.
19. **National Scholarships:** Awarded for talented children from rural areas at secondary school study during 1990 – 1991 at 8th standard.

4. Projects

Total Value of Projects –> INR 28,520,000 + foreign component, honorarium, if applicable

- Projects are grouped into three categories –
 - 1) Sponsor Projects – Completed: 5, Ongoing: 5
 - 2) Projects related to Web Course Development – Completed: 3, Ongoing: 1
 - 3) Consultancy Projects – Completed: 4, Ongoing: 1

5. Research Students:

Summary:

PhD Students – Completed: 4 (Single – 02; Joint – 01)

Ongoing: 5 (Single – 04; Joint – 01)

MTech Students – Completed: 13 (Single – 11; Joint – 02)

Ongoing: 02 (Single – 01; Joint – 0)

Other Students on Temporary Research Assignment – 04

6. Professional Experience:

- **Academic Experience (in reverse chronological order):**
 - 1) Associate Professor, Department of Civil Engineering, Indian Institute of Technology, Kharagpur, West Bengal, from December 30, 2014 to till date.
 - 2) **Assistant Professor**, Department of Civil Engineering, Indian Institute of Technology, Kharagpur, West Bengal, from December 15, 2008 to December 29, 2014.

3) **Assistant Professor**, Department of Civil Engineering, Indian Institute of Technology Bombay, Mumbai, from June 7, 2007 to December 12, 2008.

- **Other Academic Experience as a short-term visitor to foreign Universities:**

- 1) **Emerging Leaders Fellow:** Australia India Institute (AII), University of Melbourne, Victoria, Australia, from May 10, 2012 – June 29, 2012.
- 2) **Visiting Researcher as BOYSCAST Fellow:** School of Civil Engineering, Purdue University, West Lafayette, Indiana, USA, from August 12, 2011 – December 29, 2011.
- 3) **Visiting Faculty through DAAD Fellowship:** Academic and Research Department Engineering Hydrology, Faculty of Civil Engineering, RWTH Aachen University, Germany, from May 18, 2010 – July 12.
- 4) **Honorary Visiting Scholar through ICE-WaRM Fellowship:** Department of Earth Science, Flinders University, Adelaide, Australia, from May 26, 2008 – June 25, 2008.

- **Industrial Experience (3 years):**

- 1) Trainee Engineer (6 months) and Assistant Engineer (2 yrs 6 months), Consulting Engineering Services (I) Pvt. Ltd., Kolkata, from July 17, 1999 to July 20, 2002.

7. Teaching:

Under Graduates:

1. **Water Resources Engineering**
2. **Hydraulics**
3. **Statistical Methods in Hydrology**
4. **Engineering Drawing and Computer Graphics**
5. **Fluid Mechanics**

Post Graduates:

1. **Applied Hydrology**
2. **Stochastic Hydrology**

8. Professional Memberships:

- Member of American Geophysical Union (AGU), USA
- Member of International Association of Hydrological Sciences (IAHS), UK
- Member of European Geosciences Union (EGU), Germany
- Member of International Water Resources Association (IWRA), France
- Member of the International Association for Hydro-Environment Engineering and Research (IAHR)

- Member of Asian Council of Science Editors (ACSE)
- Life Member of Indian Science Congress Association (ISCA), India
- Life Member of Indian Society for Hydraulics (ISH), India

9. List of Publications

Book:

1. **Maity Rajib**, and D. Nagesh Kumar, (2014), Hydroclimatic Teleconnection: Indian Perspective, Scholar Press, Copyright © 2014 OmniScriptum GmbH & Co. KG, Heinrich-Böcking-Str. 6-8, 66121, Saarbrücken, Germany, ISBN: 978-3-639-66387-7.

Book Chapters:

1. Nagesh Kumar D. and **Rajib Maity**, (2006), An analysis of rainfall in Orissa with sea surface temperature anomaly by similarity search technique, In *Prediction in Ungauged Basins for Sustainable Watershed Management*, Edited by Dr. K. Srinivasa Raju, M/s Jain Brothers, New Delhi, pp. 27 - 40.
2. D. Nagesh Kumar and **Rajib Maity**, (2008), Use of Climate Variables for Streamflow Prediction, In *Advances in Water Quality & Management* (Chapter 15), Edited by Sudhakar M. Rao, Monto Mani and N.H. Ravindranath, Research Publishing Services, Singapore, pp. 292-300.
3. **Maity, Rajib** (2014), Hydroclimatic teleconnection in the context of climate forcing on hydrologic variables: an Indian perspective, In *the Emerging Leaders' Report, Vol 2*, Australia India Institute, Australia, pp. 46-55.
4. **Rajib Maity** and K. Chanda (2015), Potential of Genetic Programming in Hydroclimatic Prediction of Droughts: An Indian Perspective, In *Handbook of Genetic Programming Applications*, Edited by A. H. Gandomi, A. H. Alavi, and C. Ryan, Springer, pp. 381-398.
5. Chanda K. and **Rajib Maity** (2017), Global Climate Pattern Behind Hydrological Extremes in Central India, In *Climate Change Impact (ICWEES 2016)*, Springer.

Patent/Copyright:

1. HydroClimatic Conceptual Streamflow (HCCS) Model, Copyright Office, Government of India, Registration no. L-61483/2015 dated March 19, 2015.

Refereed Journals:

1. **Maity Rajib**, and D. Nagesh Kumar, (2006), Bayesian dynamic modeling for monthly Indian summer monsoon rainfall using El Niño-Southern Oscillation (ENSO) and Equatorial Indian Ocean Oscillation (EQUINOO), *Journal of Geophysical Research - Atmospheres*, American Geophysical Union, **111**(D7), D07104, DOI:10.1029/2005JD006539.
2. **Maity Rajib** and D. Nagesh Kumar, (2006), Hydroclimatic association of monthly summer monsoon rainfall over India with large-scale atmospheric circulation from tropical Pacific

Ocean and Indian Ocean region, *Atmospheric Science Letters*, Wiley InterScience on behalf of Royal Meteorological Society (RMetS), **7**(4), 101-107, DOI: 10.1002/asl.141.

3. **Maity Rajib**, and D. Nagesh Kumar, (2007), Hydroclimatic teleconnection between global sea surface temperature and rainfall over India at subdivisional monthly scale, *Hydrological Processes*, Wiley InterScience, **21**(14), 1802-1813, DOI: 10.1002/hyp.6300.
4. Nagesh Kumar D., M. J. Reddy and **Rajib Maity**, (2007), Regional Rainfall Forecasting using Large Scale Climate Teleconnections and Artificial Intelligence Techniques, *Journal of Intelligent Systems*, Freund & Pettman, UK, **16**(4), 307-322, DOI: 10.1515/JISYS.2007.16.4.307.
5. **Maity Rajib**, D. Nagesh Kumar and Ravi S Nanjundiah (2007), Review of hydroclimatic teleconnection between hydrologic variables and large-scale atmospheric circulation indices with Indian perspective, *ISH Journal of Hydraulic Engineering*, Taylor & Francis, **13**(1), 77-92, DOI: 10.1080/09715010.2007.10514859.
6. **Maity Rajib**, and D. Nagesh Kumar, (2008), Basin-scale streamflow forecasting using the information of large-scale atmospheric circulation phenomena, *Hydrological Processes*, Wiley InterScience, **22**(5), 643-650, DOI: 10.1002/hyp.6630.
7. Nagesh Kumar D. and **Rajib Maity**, (2008), Bayesian dynamic modeling for nonstationary hydroclimatic time series forecasting along with uncertainty quantification, *Hydrological Processes*, Wiley InterScience, **22**(17), 3488-3499, DOI: 10.1002/hyp.6951.
8. **Maity Rajib**, and D. Nagesh Kumar, (2008), Probabilistic prediction of hydroclimatic variables with nonparametric quantification of uncertainty, *Journal of Geophysical Research - Atmospheres*, American Geophysical Union, **113**(D14), D14105, DOI: DOI:10.1029/2008JD009856.
9. **Maity Rajib**, S. S. Kashid and A. Bhatnagar (2009), Hydrometeorological modeling approaches using Support Vector Regression (SVR) and Genetic Programming (GP), *Special Issue of the ISH Journal of Hydraulic Engineering*, Taylor & Francis, **15**(SP1), 244-257, DOI: 10.1080/09715010.2009.10514978.
10. **Maity Rajib**, and D. Nagesh Kumar, (2009), Hydroclimatic influence of large-scale circulation on the variability of reservoir inflow, *Hydrological Processes*, Wiley InterScience, **23**(6), 934 – 942, DOI: 10.1002/hyp.7227.
11. **Maity Rajib**, and S. S. Kashid (2009), Hydroclimatological approach for monthly streamflow prediction using genetic programming, *ISH Journal of Hydraulic Engineering*, Taylor & Francis, **15**(2), 89-107, DOI: 10.1080/09715010.2009.10514943.
12. **Maity Rajib**, P. P. Bhagwat and A. Bhatnagar (2010), Potential of Support Vector Regression for Prediction of Monthly Streamflow using Endogenous Property, *Hydrological Processes*, **24**(7), 917-923, DOI: 10.1002/hyp.7535.
13. **Maity Rajib**, and S. S. Kashid (2010), Short-term basin-scale streamflow forecasting using large-scale coupled atmospheric oceanic circulation and local outgoing longwave radiation, *Journal of Hydrometeorology*, American Meteorological Society (AMetSoc), **11**(2), 370-387, DOI: 10.1175/2009JHM1171.1.
14. Kashid, S. S., Ghosh, S., and **Rajib Maity** (2010), Streamflow Prediction using Multi-Site Rainfall Obtained from Hydroclimatic Teleconnection, *Journal of Hydrology*, Elsevier, **395**(1-2), 23-38, DOI: 10.1016/j.jhydrol.2010.10.004.

15. **Maity Rajib** and S. S. Kashid (2011), Importance Analysis of Local and Global Climate Inputs for Basin-Scale Streamflow Prediction, *Water Resources Research*, American Geophysical Union, **47**(11), W11504, DOI:10.1029/2010WR009742.
16. Bhagwat P P and **Rajib Maity** (2012), Multistep-ahead River Flow Prediction using LS-SVR at Daily Scale, *Journal of Water Resource and Protection (JWARP)*, **4**(7), 528-539, DOI: 10.4236/jwarp.2012.47062.
17. Kashid S.S. and **Rajib Maity** (2012), Prediction of Monthly Rainfall on Homogeneous Monsoon Regions of India Based on Large Scale Circulation Patterns using Genetic Programming, *Journal of Hydrology*, Elsevier, **454-455**, 26-41, DOI: 10.1016/j.jhydrol.2012.05.033.
18. **Maity Rajib**, (2012), Probabilistic Assessment of one-step-ahead Rainfall Variation by Split Markov Process, *Hydrological Processes*, Wiley InterScience, **26**(7), 3182 – 3194, DOI: 10.1002/hyp.8245.
19. **Maity Rajib**, A. Sharma, D Nagesh Kumar and K. Chanda (2013), Characterizing drought using the reliability-resilience-vulnerability concept, special issue on Data Driven Approaches to Droughts, *Journal of Hydrologic Engineering, ASCE*, **18**(7), 859-869, DOI: 10.1061/(ASCE)HE.1943-5584.0000639.
20. Das S. K. and **Rajib Maity** (2013), Probabilistic Simulation of Surface Soil Moisture using Hydrometeorological Inputs, *ISH Journal of Hydraulic Engineering*, Taylor & Francis, **19**(3), 227-234, DOI: 10.1080/09715010.2013.798907.
21. Bhagwat P.P. and **Rajib Maity** (2013), Hydroclimatic Streamflow Prediction using Least Square-Support Vector Regression, *ISH Journal of Hydraulic Engineering*, Taylor & Francis, **19**(3), 320-328, DOI: 10.1080/09715010.2013.819705.
22. **Maity Rajib**, R. Meenu, R.S. Govindaraju (2013), Identification of Hydrologic Drought Triggers from Hydro-climatic Predictor Variables, *Water Resources Research*, American Geophysical Union, **49**(7), 4476 – 4492, DOI: 10.1002/wrcr.20346.
23. Bhagwat P.P. and **Rajib Maity** (2014), Reply to the “Discussion by Haddad et al. on ‘Hydroclimatic Streamflow Prediction using Least Square-Support Vector Regression’ by Bhagwat and Maity (2013)”, *ISH Journal of Hydraulic Engineering*, Taylor & Francis, **20**(3), 276-277, DOI: 10.1080/09715010.2014.881075.
24. Bhagwat P.P. and **Rajib Maity** (2014), Development of HydroClimatic Conceptual Streamflow (HCCS) Model for Tropical River Basins, *Journal of Water and Climate Change*, IWA Publishing, **5**(1), 36-60, DOI: 10.2166/wcc.2013/015.
25. Das S. K. and **Rajib Maity** (2014) On the Application of Probabilistic Hydrometeorological Simulation of Soil Moisture across Different Stations in India. *Journal of Geoscience and Environment Protection*, **2**(3), 159-169. DOI: 10.4236/gep.2014.23021.
26. Das S. K. and **Rajib Maity** (2015), Potential of Probabilistic Hydrometeorological Approach for Precipitation-Based Soil Moisture Estimation, *Journal of Hydrologic Engineering*, ASCE, **20**(4):04014056, DOI: 10.1061/(ASCE)HE.1943-5584.0001034.
27. Chanda K., **Rajib Maity**, A. Sharma and R. Mehrotra (2014), Spatiotemporal Variation of Long-term Drought Propensity through Reliability-Resilience-Vulnerability based Drought Management Index, *Water Resources Research*, **50**(10), 7662–7676, DOI: 10.1002/2014WR015703.

28. Meenu R., **Rajib Maity**, R. Ojha, and R S Govindaraju (2014), 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.
29. **Maity Rajib**, Sayan Dey and Prerit Varun (2015), Alternative Approach for Estimation of Precipitation using Doppler Weather Radar Data, *Journal of Hydrologic Engineering*, ASCE, 20(10): 04015006, doi: 10.1061/(ASCE)HE.1943-5584.0001146.
30. Chanda K. and **Rajib Maity**, (2015), Uncovering Global Climate Fields Causing Local Precipitation Extremes, *Hydrological Sciences Journal*, Taylor and Francis, 61(10), 1227-1237, DOI: 10.1080/02626667.2015.1006232.
31. Das S. K, and **Rajib Maity** (2015), A hydrometeorological approach for probabilistic simulation of monthly soil moisture under bare and crop land conditions, *Water Resources Research*, American Geophysical Union (AGU), 51(4), 2336–2355, doi:10.1002/2014WR016043.
32. Chanda K. and **Rajib Maity**, (2015), Meteorological Drought Quantification with Standardized Precipitation Anomaly Index (SPAI) for the Regions with Strongly Seasonal and Periodic Precipitation, *Journal of Hydrologic Engineering*, American Society for Civil Engineering (ASCE), 20(12), 06015007-1 – 06015007-8, DOI: 10.1061/(ASCE)HE.1943-5584.0001236.
33. **Maity Rajib**, A. Aggrawal 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*, IWA Publishing, 7(2), 280-295; DOI: 10.2166/wcc.2015.126.
34. Chanda K. and **Rajib Maity**, (2015), Closure to “Discussion of 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*, American Society for Civil Engineering (ASCE), 21(5): 07016004, doi: 10.1061/(ASCE)HE.1943-5584.0001369.
35. Pal M., **Rajib Maity** and Sayan Dey (2016), Statistical Modelling of Vertical Soil Moisture Profile: Coupling of Memory and Forcing, *Water Resources Management*, Springer, 30(6), 1973-1986, DOI: 10.1007/s11269-016-1263-4.
36. **Maity Rajib**, M. Suman and N K Verma (2016), Drought prediction using a wavelet based approach to model the temporal consequences of different types of droughts, *Journal of Hydrology*, Elsevier, 539, 417-428, doi: 10.1016/j.jhydrol.2016.05.042.
37. Subbarao P. and **Rajib Maity**, (2016), Spatio-temporal downscaling of projected precipitation in 21st century: Indication of a wetter monsoon over the upper Mahanadi basin in India, *Hydrological Sciences Journal*, In Press, DOI: 10.1080/02626667.2016.1241882.
38. Naren A. and **Rajib Maity** (2016), Hydroclimatic Modelling of Local Sea Level Rise and its Projection in Future, *Theoretical and Applied Climatology*, In Press, DOI: 10.1007/s00704-016-1897-4.
39. Manali Pal, **Rajib Maity**, Mayank Suman, Sarit Kumar Das, Parul Patel and Hari Shanker Srivastava (2016), Satellite based Probabilistic Assessment of Soil Moisture using C-band Quad-polarized RISAT 1 data, *IEEE Transactions on Geoscience and Remote Sensing*, In Press, DOI: 10.1109/TGRS.2016.2623378.
40. Subbarao P., Rajendra P. R., Rajib Maity and H. Kunstmann (2017), Development of a method to identify change in the pattern of extreme streamflow events in future climate:

Application on the Bhadra reservoir inflow in India, *Journal of Hydrology: Regional Studies*, 9, 236-246, DOI: 10.1016/j.ejrh.2016.12.084.

41. Chanda K. and Rajib Maity (2017), Assessment of Trend in Global Drought Propensity in the 21st century using Drought Management Index, *Water Resources Management, In Press*, DOI: DOI: 10.1007/s11269-017-1571-3.

Project/Technical Report:

1. **Maity, Rajib** (2009), Assessment of hydroclimatic Teleconnection for basin-scale, real-time streamflow and its use in real-time streamflow forecasting, Submitted to Science and Engineering Research Council (SERC), Department of Science and Technology (DST), Govt. of India, pp. 91, New Delhi, pp. 91.
2. **Maity, Rajib** and P K Gupta (2011), River basin stream flow simulation using remote sensing data and climate model output, Under PRoGrAmme on Climate change Research In Terrestrial environment (PRACRITI), Submitted to Space Application Centre, Indian Space Research Organisation (ISRO), Government of India, Ahmedabad, Gujarat, India, pp. 83.
3. **Maity, Rajib** and A Dhar (2013), Performance evaluation study in respect of work “Keliaghai-Kapaleswari-Baghai drainage basin scheme” (Phase-I, 2010-2011) under flood management programme, GOI, Submitted to Superintending Engineer, Western Circle-II, I&W Directorate, Dist. Paschim Mednipur, Govt. of West Bengal, pp. 10.
4. **Maity, Rajib** and A Dhar (2014), Performance evaluation study in respect of work “Keliaghai-Kapaleswari-Baghai drainage basin scheme” (Phase-II, 2012-2013) under flood management programme, GOI, Submitted to Superintending Engineer, Western Circle-II, I&W Directorate, Dist. Paschim Mednipur, Govt. of West Bengal, pp. 24.
5. **Maity, Rajib** (2017), Probabilistic Estimation of Soil Moisture from RISAT1 Data along with Uncertainty Quantification, Submitted to Space Application Centre (SAC), Indian Space Research Organization (ISRO), Govt. of India, Ahmedabad, pp. 64.

Conferences and Symposia:

1. Nagesh Kumar D. and **Rajib Maity**, (2004), Analysis of Orissa rainfall with sea surface temperature anomaly by similarity search technique, In the *Proceedings of Prediction in Ungauged Basin for Sustainable Water Resources Planning and Management (PUBSWRPM-2004)*, BITS, Pilani, India, pp.7 – 15, **Invited Paper**.
2. Nagesh Kumar D., M. Janga Reddy and **Rajib Maity**, (2005), Regional Rainfall Forecasting using Large Scale Climate Teleconnections and Evolutionary Algorithms, In the *Proceedings of 2nd Indian International Conference on Artificial Intelligence*, WR 105, Pune, India, pp. 1169 - 1182.
3. **Maity, Rajib** and D. Nagesh Kumar, (2006), Artificial Neural Network approach for hydroclimatic streamflow forecasting in India using ENSO and EQUINOO, In the *Proceedings of World Environmental and Water Resources Congress*, EWRI, ASCE, Omaha, Nebraska, USA.
4. **Maity, Rajib** and D. Nagesh Kumar, (2007), Bayesian dynamic linear modeling for streamflow forecasting using large-scale atmospheric circulations, In the *Proceedings of*

International Conference on Civil Engineering in the New Millennium: Opportunities and Challenges (CENeM-2007), January 11-14, 2007, 150- year anniversary conference at Bengal Engineering and Science University, Shibpur, Howrah, West Bengal, India, Vol. IV, pp. 2736-2744, **Invited Paper**.

5. **Maity, Rajib** (2007), An Introduction to climate forcing on hydrologic variables, In the *Proceedings of the national conference on Hydraulics and Water Resources, HYDRO - 2007*, Organized by SVNIT, Surat, and Indian Society for Hydraulics, December 21 - 22, 2007, pp. 40 - 46.
6. **Maity, Rajib**, S. S. Kashid and Ashish Bhatnagar (2008) Hydrometeorological modeling approaches using support vector regression and genetic programming, In the *Proceeding of the Brainstorming Workshop on Application of Advanced Soft Computing Techniques in Geo-Spatial Data Analysis*, September 22-23, 2008, IIT Bombay, Mumbai, pp. 185-195, **Invited paper**.
7. **Maity, Rajib** and D. Nagesh Kumar, (2009), Uncertainty Quantification for Hydrologic Models using Copula, In the *Proceedings of International Conference on Water, Environment, Energy and Society (WEES-2007)*, New Delhi, India.
8. **Maity, Rajib** and D. Nagesh Kumar, (2009), Rainfall-runoff modeling using system concept of watershed characteristics, In the *Proceedings of An International Perspective on Environmental and Water Resources*, EWRI, ASCE, 5-7 January 2009, Bangkok, Thailand.
9. Kashid S.S. and **Rajib Maity**, (2009), Analysis of basin-scale streamflow variation using local and global climatic inputs, In the *Proceedings of the workshop entitled Development and Application of Advanced Soft Computing Techniques in Multidimensional Geospatial Data Analysis*, 15-16 October, 2009, IIT Kanpur, **Invited paper**.
10. Kashid S.S. and **Rajib Maity**, (2009), Hydroclimatological Approach for Monthly Basin Scale Streamflow Prediction using Genetic Programming, AIAWRM-02, 4th Indian International Conference on Artificial Intelligence (IICAI-09), December 16-18, 2009, Tumkur, India.
11. Kashid S.S. and **Rajib Maity**, (2010), Prediction of monthly rainfall over homogeneous monsoon regions of India based on large scale circulation patterns using genetic programming, In EWRI's 3rd developing nations conference: India 2010 - An International Perspective on Current & Future State of Water Resources & the Environment, January 5-7, 2010, Chennai, India.
12. **Maity, Rajib** (2010), Large-scale climatic forcing along with local meteorological influence on hydrologic variables, 5th IWA Young Water Professional Conference, July 5 – 7, 2010, Sydney, Australia.
13. **Maity, Rajib** and Mahesh Sawant (2010), Uncertainty quantification for predicted stream flow through a semi parametric approach, In the conference on ‘Sustainable Water Resources Management and Impact of Climate Change’, March 5 – 6, 2010, March 5 – 6, 2010, BITS-Pilani, Hyderabad Campus, India, pp. 280-290.
14. **Maity, Rajib** and Kironmala Chanda (2011), Probabilistic prediction of streamflow using the information of Outgoing Longwave Radiation through Plackett copula, In the proceedings of *‘International conference on Sustainable Water Resources Management*

and Climate Change Adaptation', held at National Institute of Technology, Durgapur, February 17-19, 2011, pp. 119-130.

15. **Maity, Rajib**, M. Ramadas and R. S. Govindaraju (2011), Dimensionality reduction in hydroclimatic variables for probabilistic streamflow prediction using a hybrid approach, Presented in *World Environment and Water Resources Congress*, EWRI, ASCE, May 20-24, 2012.
16. **Maity, Rajib**, R. Ojha and R. S. Govindaraju (2011), Assessment of multi-dimensional coupled association among hydroclimatic variables using graphical modelling approach, Presented in *World Environment and Water Resources Congress*, EWRI, ASCE, May 20-24, 2012.
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