

**BIO DATA OF**  
**Prof K V JAYAKUMAR**  
**Visiting Professor cum Outreach Advisor**  
**Email: [kvj@iitdh.ac.in](mailto:kvj@iitdh.ac.in); [kvjayco@gmail.com](mailto:kvjayco@gmail.com)**  
**Mobile: +91 9652901237**



**Personal Details**

**Date of Birth:** 28 April, 1956

**Education:**

**Schooling:** St Joseph's High School, Ooty and St. Antony's High School, Coonoor, The Nilgiris, Tamilnadu

**B.Tech (Civil)** Karnataka Regional Engineering College, Surathkal (Now, NITK, Surathkal)

**M.Tech** : Indian Institute of Technology Kanpur

**PhD** : Indian Institute of Technology Kanpur

**Teaching & Research Experience:**

August 1978- July 1979	:	Assistant Lecturer, Karnataka Regional Engineering College, Surathkal
August 1981- July 1983	-	Research Associate, Centre for Water Resources, Anna University, Chennai
August 1988-April 92	-	Research Engineer, IIT Kanpur
April 1992- May 1993	:	Senior Research Engineer, IIT Kanpur
June 1, 1993 - 18 Feb 1999	-	Assistant Professor, Department of Civil Engineering, REC Warangal
18 Feb 1999 - 30 March 2018	:	Professor of Civil Engineering, REC /NIT Warangal
30 March 2018 – April 2021	:	Professor (HAG), Department of Civil Engineering, NIT Warangal
03 May 2021 – April 2023	-	Emeritus Professor, Department of Civil Engineering, NIT Warangal
09 October 2023 -		Visiting Professor cum Outreach Advisor, IIT Dharwad

**Administrative and leadership experience outside NIT Warangal (On deputation)**

28 July 2007 – 31 December 2011	:	Executive Director, Centre for Water Resources Development & Management, Kozhikode
10 Dec. 2010 – 31 Dec. 2011	-	Director, Centre for Science & Technology Entrepreneurship Development, Government of Kerala (Full Additional Charge)
10 May 2011 – 31 Dec. 2011	:	Director, Kerala School of Mathematics (Full Additional Charge)

**Administrative Experience at REC / NIT Warangal:**

- Head, Water & Environment Division, Department of Civil Engineering (Aug 1993- July 1996, March 1999 – March 2002, Jan 2012- Dec 2014)
- Member, Games Committee (April 1999 – March 2002)
- Chairman, Games Committee (April 2002 – March 2005- organised the first Inter- NIT sports meet)
- Professor- in-Charge, Sponsored Research and Industrial Consultancy (SRIC) (April 2005-March 2007)
- Head, Department of Civil Engineering (July 2006 – June 2008)
- Dean, Planning & Development (Aug 2016- Oct 2017)-Successfully completed new academic buildings costing about RS.200 Crores and was the nodal officer for NIRF related activities.
- Dean, International Relations & Alumni Affairs (Oct 2017 – January 2020) – organised as many as 95 GIAN programmes, the highest among all the NITs apart from hosting the Steering and Executive Committee meeting of the Heritage program, an Indo-European Union Cooperation Programme under which as many as 60 students and faculty members could visit European universities; Organised the Indo-Taiwanese President/Directors meet, the first of its kind in India.

- Nodal Coordinator, SPARC (Sept 2018 – April 2021) – 10 SPARC projects were sanctioned at NITW.
- Advisor to the Director – Special Programmes (Dec 2019 – April 2021) – Organised many Institute Popular Lectures and Institution Building Lecture Series.

#### **AWARDS:**

- **Awarded the Distinguished Alumnus Award during the Diamond Jubilee Celebrations of National Institute of Technology Karnataka, Surathkal, 2019**
- Awarded the **Prof Rangaraju Award** for excellence in Water Resources Research, April 2019
- International Visiting Fellowship of the Environment and Water Research Institute (EWRI) of the American Society of Civil Engineers (ASCE), 2003
- Government of Andhra Pradesh Award during the Independence Day (2002) for outstanding contribution to community development by an academician.
- UNESCO Fellowship to participate in the IV International Course on Urban Drainage in Developing Countries at the Asian Institute of Technology, Bangkok (1992)

#### **Recognition & Honours**

- Governing Body member of Wetlands International South Asia (July 2023 onwards)
- Member of the Expert Review Committee to evaluate the proposals under VAIBHAV Research Programme, DST (2023)
- Member of an expert panel of the International Division of the DST constituted to evaluate the India-Canada Project Proposals, (2022)
- Member of the Steering Committee of the Centre of Excellence in Water-related Disaster Management in Kerala at CWRDM Kozhikode (2022 – Continuing)
- External Senate Member, Academic Senate, NITK Surathkal (September 2019- September 2022)
- Lead, Technical Evaluation Committee, India-Spain Collaborative Industrial Research & Development, Global Innovation & Technology Alliance (GITA), Technology Development Board (TDB), Department of Science & Technology (DST), Government of India and the Confederation of Indian Industry (CII).
- Member, Research Council of NATPACT (2019-2022)
- Coordinator and expert, Revision of Civil Engineering Syllabus for Civil Services Examination, UPSC (2022)
- Chairman/Member of the visiting NBA teams for accreditation of UG/PG Engineering Degree Programmes
- Advisor, International Council for Circular Economy (January 2021 - )
- Member, KUDA Region Lake Protection Committee (August 2000- )
- Expert member of faculty selection at IIT Delhi, NIT Kurukshetra, NITK Surathkal, NIT Goa, NIT Silchar, SRMAP etc.
- Invited to deliver the **18th International Hydrological Decade Endowment Lecture** on "Environmental flow in Indian Context" on 16th February, 2018 at the Centre for Water Resources, Anna University, Chennai. The previous speakers include Prof Ven Te Chow, University of Illinois, UC, USA, Prof S Ramaseshan, IIT Kanpur, Dr WH Gilbrich of UNESCO, Paris, Prof VP Singh, Texas A&M University, USA, Prof AR Rao, Purdue Univ, USA, Dr M S Swaminathan, Prof J C I Dooge, Prof Victor R Baker, Univ of Arizona, USA etc.)
- Member of Expert Panel to evaluate proposals under "Optimal Water Use in Industrial Sector", constituted by the DST, Government of India (Feb 2019)
- Technical Advisory Committee (TAC) of National Institute of Hydrology, Roorkee (May 2018 -)
- Member of Academic Council of National Resource Centre (NRC) of National Institutes of Technical Teachers Training and Research (May, 2018- April 2021)
- Member of the Expert Committee to study/assess and examine the issues on the pollution caused due to sewage treatment plant of the Indian Naval Academy, Ezhimala, Kannur, Kerala (April 2017)
- Member of the Technical Committee to evaluate the feasibility of CETP at Alleppey (April 2017)
- Nominated as member of the Expert Committee by DST, Government of India, for Evaluation of **BRICS R&D** Proposals (Feb 2017 -2019)

- Subject Expert for **UPSC** and various state public service commissions
- Member of the State Steering Committee for Preparation of the State Specific Action Plan for Telangana State (2017 - 2019)
- Technical Advisory Committee (TAC) of National Institute of Hydrology (May 2015 - continuing)
- Member of the Technical Expert Committee of the Andhra Pradesh Urban Finance & Infrastructural Development under Atal Mission for Rejuvenation and Urban Transformation (AMRUT) (Aug 2016- 2019)
- Member of Telangana Drinking Water Supply Project (April 2015 – April 2021)
- Indian National Committee on Groundwater (INCGW), Ministry of Water Resources, Government of India (2010-2013; 2013 - continuing)
- Chairman, Post Graduate Cluster Board, APJ Abdul Kalam Kerala Technological University (2015- 2021)
- Consultative Committee Member of Kerala State Pollution Control Board (2013 - 2021)
- Honorary Member, Wetlands International South Asia (2012 - continuing)
- Core Group Member DST, Technology Development and Transfer, Support of State Science and Technology Programme (2010-2013)
- Kerala Dam Safety Authority (2008-2011)
- Member, Research Advisory Committee, Centre for Water Resources, Anna University, Chennai (2017-2019)
- Member, Board of Studies, Osmania University, Hyderabad.
- Member, Board of Studies, Jawaharlal Nehru Technological University, Hyderabad
- Member, Board of Studies, Jawaharlal Nehru Technological University, Kakinada
- Member, Board of Studies, Jawaharlal Nehru Technological University, Anantapur
- Member Board of Studies, Geethanjali College of Engineering, Keesra, Hyderabad
- Member, Board of Studies, Mar Baselios College of Engineering and Technology (MBCET), Thiruvananthapuram
- Member, Board of Studies, SRM University, Vijayawada
- Member of the Board of Governors, Bhimanna Khandre Institute of Technology, Bhalki (Jan 2012- )
- Member of Board of Governors, Aditya Engineering College, Kakinada (Jan 2015 - )
- Member of the Academic Council, Vaagdevi College of Engineering, Warangal (2015- )

### **Some of the important key note lectures delivered during the past 10 years**

(Many physical / online talks on various programs organised by various institutions / organisations all over the country)

- “Evacuation Model for Flood Management using GIS” at the ISRO’s Disaster Management Support Programmes organised at NIT Warangal. Aug 21, 2023
- Keynote talk on Outcome Based Education at the National Workshop on Implementation of NEP 2020 organised at NIT Rourkela during May 6-8, 2023.
- Theme talk on Only One Earth on the occasion of World Environment Day Celebrations, organised by the Institution of Engineers (I), 5th June 2022.
- Keynote talk on "Modelling of Environment Flow Requirements using Hydrological and Habitation Models" at the HYDRO-2020, International Conferences on Hydraulics, Water Resources and Coastal Engineering, Organised by NIT Rourkela under the aegis of the Indian Society of Hydraulics, 26th March 2021.
- Theme talk on "Valuing Water" on the occasion of World Water Day, organised by the Institution of Engineers (I) on 22 March 2021
- Invited talk on Environmental Flows" during the World Environment Day Celebrations, organised by the Institution of Engineers (I), 5th June 2021.
- Invited talk on “Environmental Flow and its Impact on Groundwater Regime - A Case Study" at the Third National Conference on Groundwater 2020, organised by the Centre for Water Resources Development and Management, Kozhikode during 19-22 Feb 2020

- Invited talk on "Environment Flows with Special Reference to Kerala", World Water Day State Level Celebrations, 22 March 2018, Organised by the Water Resources Department, Government of Kerala at Trivandrum,
- Invited talk on "Flood Inundation Modelling for Lower Godavari using MIKE FLOOD", International Conference on Water Challenges in India, 8-9 Feb, 2017, New Delhi, organised by DHI
- Keynote talk on "Re-looking the role of Engineers in Water Resources Management", WALAMTARI, 27 Oct, 2016
- Chief Guest at the World Water Day Celebrations organised by the Institution of Engineer (India), Odisha State Centre, Bhubaneswar, and delivered the keynote address with a theme "Water and Jobs", 20th March, 2016
- Chief Guest at the Engineer's Day Celebrations at the Tapovan Vishnugad Hydropower Station at Joshimath, Uttarakhand, on 15th Sept, 2015 and delivered a talk on 'Proud to be an Engineer!!!'
- Theme talk at the World Environment Day on 5.6.2015 at the function organised by the Institution of Engineers(I), Warangal and the Telangana State Industrial and Infrastructural Development Corporation, Warangal
- Keynote address on the World Earth Day on 22<sup>th</sup> April 2015 function organised by the Institution of Engineers (I), Warangal
- Keynote address on "Low Impact Development - Urban Water Management" at the International Civil Engineering Symposium sponsored by the American Society of Civil Engineers at VIT on 13.3.2015
- Inaugural Address at the National workshop on 'Recent Trends in Systems Applications as applied to Civil Engineering' at NITK Surathkal and delivered the Keynote address on "Systems Approach - Some thoughts", 9th Jan, 2015.
- Plenary talk on "Environmental Flow - Some thoughts" at the IV International Conference on Hydrology and Watershed Management, JNTU, Hyderabad, October 31, 2014
- "Groundwater Modelling", at the Regional Workshop on Groundwater Development for Sustainable Development, Organised by Central Groundwater Board, at Warangal October 17, 2014
- "Water and Energy" - theme address at the World Water Congress organised by the WALAMTARI and International Water Management Agency, Hyderabad March 22, 2014
- "Sustainable Management of Groundwater Resources", organised by the Central Groundwater Board, Southern Region at Hyderabad on 20<sup>th</sup> March, 2014.
- "Trends in Urban Water Management". at the National Workshop on Challenges and Perspectives of Water in Urban Areas of Andhra Pradesh, organised by the Central Groundwater Board, Ministry of Water Resources, Government of India, Hyderabad, 20<sup>th</sup> April, 2014
- "Traditional Water Management Methods" - Focal theme address, Kerala Science Congress, Wyanad, Kerala, 28<sup>th</sup> Jan, 2014
- "24x7 Water Supply, International Conference in Recent Innovations in Civil, PDA College of Engineering, Gulbarga, 25 October, 2013
- "Water & International Cooperation", Distinguished lecture on the World Water Day, Irrigation and Command Area Development Department, Hyderabad, 22<sup>nd</sup> March, 2013
- "24x7 Water Supply and its Impact", at the Round table conference to evolve an Integrated Strategy for Augmenting Water Resources to Support Increasing Demand of a Rapidly Expanding Metropolis - Bangalore, organised by Department of Science and Technology, Bangalore Water Supply and Sewerage Board and Karnataka State Council for Science and Technology", 16<sup>th</sup> March, 2013

#### **Publications in Journals / Conference Proceedings (in reverse chronological order)**

1. Gunjan Mishra, A. Uday Kumar; M.R. Tapas, P. Oggu & **Jayakumar K V** (2023), "Evaluating hydrological alterations and recommending minimum flow release from the Ujjani dam to improve the Bhima River ecosystem health", Water Sci Technology, <https://doi.org/10.2166/wst.2023.236>
2. Shyam Sundar Pindi & **Jayakumar K V** (2023), " Modelling runoff and Sedimentation Yield using Soil and Water Analysis Tool (SWAT) for Wyra River Basin", Ecological Engineering & Environmental Technology, DOI: <https://doi.org/10.12912/27197050/165776>

3. Amgoth, A., Rani, H.P. & Jayakumar, K.V. (2023) Exploring LULC changes in Pakhal Lake area, Telangana, India using QGIS MOLUSCE plugin. *Spat. Inf. Res.* <https://doi.org/10.1007/s41324-023-00509-1>
4. Shyamsundar Pindi & **Jayakumar K V** (2022), "Assessment of sedimentation status and trap efficiency of Wyra reservoir", in the ISH Journal of Hydraulic Engineering, DOI: [10.1080/09715010.2022.2122879](https://doi.org/10.1080/09715010.2022.2122879)
5. Amgoth, A., Rani, H.P., & **K V Jayakumar** (2022). Extraction of Water Surface Bodies for Pakhal Lake, India Using GEE. In: Dikshit, A.K., Narasimhan, B., Kumar, B., Patel, A.K. (eds) Innovative Trends in Hydrological and Environmental Systems. Lecture Notes in Civil Engineering, vol 234. Springer, Singapore. [https://doi.org/10.1007/978-981-19-0304-5\\_31](https://doi.org/10.1007/978-981-19-0304-5_31)
6. Soumyashree Dixit, Bindu Madhavi Atla, & **K V Jayakumar** (2022), "Evolution and drought hazard mapping of future meteorological and hydrological droughts using CMIP6 model", May 2022, Stochastic Environmental Research and Risk Assessment, DOI: [10.1007/s00477-022-02230-1](https://doi.org/10.1007/s00477-022-02230-1)
7. Soumyashree Dixit & **K V Jayakumar** (2022), " A non-stationary and probabilistic approach for drought characterization using trivariate and Pairwise Copula Construction (PCC) model, Water Resources Management, February 2022, DOI: <https://doi.org/10.1007/s11269-022-03069-5>
8. Soumyashree Dixit & **K V Jayakumar** (2021), "Spatio-temporal analysis of copula-based probabilistic multivariate drought index using CMIP6 model", International Journal of Climatology, November 2021, DOI: <https://doi.org/10.1002/joc/.7469>
9. Soumyashree Dixit & **K V Jayakumar** (2021), "A study on copula-based bivariate and trivariate assessment in Godavari River basin and the teleconnection of drought with large-scale climate indices", Theoretical and Applied Climatology, October 2021, DOI: [10.1007/s00704-021-03792-w](https://doi.org/10.1007/s00704-021-03792-w)
10. Mahesh R. Tapas, A Uday Kumar A, Sudhakar Mogili & **K V Jayakumar** (2021), "Development of multivariate integrated drought monitoring index (MIDMI) for Warangal region of Telangana, India", Journal of Water and Climate Change *jwc2021065*, <https://doi.org/10.2166/wcc.2021.065>
11. Soumyashree Dixit, Syed Tayyaba & **K V Jayakumar** (2021), "Spatio-temporal variation and future risk assessment of projected drought events in the Godavari basin using Regional Climate Models, accepted for publication in IWA Journal of Water and Climate Change, <https://doi.org/10.2166/wcc.2021.093>
12. Ashok Amgoth, H.P. Rani & **K V Jayakumar** (2021), " Monitoring of dynamic wetland changes using NDVI and NDWI based Landsat imagery", accepted for publication in Remote Sensing Applications: Society and Environment, Vol. 23, 100547. <https://doi.org/10.1016/j.rsase.2021.100547>
13. Seenu P.Z. & **Jayakumar K V** (2021), "Comparative study of innovative trend analysis technique with Mann-Kendall tests for extreme rainfall", Arabian Journal of Geosciences, <https://doi.org/10.1007/s12517-021-06906-w>, available online from 17 March 2021.
14. Uday Kumar & **K V Jayakumar** (2020), "Modelling environmental flow requirements using hydraulic and habitation models", Ecological Indicators, Elsevier, <https://doi.org/10.1016/j.ecolind.2020.107046>.
15. Seenu P.Z. & **Jayakumar K V** (2020) " Optimization of Bias Correction Methods for RCM Precipitation Data and their Effects on Extremes", in: Dutta D., Mahanty B. (eds) Numerical Optimization in Engineering and Sciences. Advances in Intelligent Systems and Computing, vol 979. Springer, Singapore, DOI: [https://doi.org/10.1007/978-981-15-3215-3\\_9](https://doi.org/10.1007/978-981-15-3215-3_9) , Print ISBN978-981-15-3214-6
16. Bangia A., Bhardwaj R., & **Jayakumar K.V.** (2020) "Water Quality Analysis Using Artificial Intelligence Conjunction with Wavelet Decomposition", in Dutta D. and Mahanty B. (eds) Numerical Optimization in Engineering and Sciences. Advances in Intelligent Systems and Computing, vol 979. Springer, Singapore, DOI: [https://doi.org/10.1007/978-981-15-3215-3\\_11](https://doi.org/10.1007/978-981-15-3215-3_11), Print ISBN978-981-15-3214-6
17. Rani H.P., Narayana V., & **Jayakumar K.V.** (2020) " Geometrical Effects on Natural Convection in 2D Cavity" in Dutta D. and Mahanty B. (eds) Numerical Optimization in Engineering and Sciences. Advances in Intelligent Systems and Computing, vol 979. Springer, Singapore, [https://doi.org/10.1007/978-981-15-3215-3\\_37](https://doi.org/10.1007/978-981-15-3215-3_37), Print ISBN978-981-15-3214-6A
18. Uday Kumar & **K V Jayakumar** (2019) "Environmental Flow Requirements for the Krishna River" HYDRO 2019, organized by the Indian Society of Hydraulics, Hyderabad, 18-20 December.

19. Seenu, P.Z., Venkata Rathnam, E. & **Jayakumar, K.V. (2020)**, " Visualisation of urban flood inundation using SWMM and 4D GIS". *Spat. Inf. Res.* **28**, 459–467 (2020). <https://doi.org/10.1007/s41324-019-00306-9>
20. A Uday Kumar and **K V Jayakumar (2019)** "Environmental Flow Requirements for the Krishna River" HYDRO 2019, organized by the Indian Society of Hydraulics, Hyderabad, 18-20 December.
21. Seenu P.Z., Rashmi Y & **Jayakumar K.V. (2019)**, "2D Urban Planning Inundation Model using HEC-RAS - A Case Study" 8th Asia Pacific Association of Hydrology and Water Resources (APHW), International Conference, IIT Roorkee, 21-23 Nov, 2019
22. Pindi Syhyamsundar, G.Surya Kiran, E Venkata Rathnam and **Jayakumar, K.V. (2019)**, "Reservoir Sedimentation Analysis through Field Studies and Hydrographic Survey", E-Proceedings of the 38th IAHR World Congress, Panama City, September 1-6, DOI: 10.3850/38WC092019-0614
23. Uday Kumar A & **K V Jayakumar (2019)**, "Hydrological alterations due to anthropogenic activities in Krishna River Basin, India", *Ecological Indicators.* 108, January 2020, pages 1-8. DOI:<https://doi.org/10.1016/j.ecolind.2019.105663>
24. Niharika J, K.Yella Reddy, L. Narayana Reddy and **K V Jayakumar (2019)**, " Rainfall Distribution Analysis to Assist Crop Selection and Irrigation Planning" 3rd World Irrigation Forum, 107 September, 2019, Bali, Indonesia, DOI: 10.13140/RG.2.2.25541.19685
25. Dixit S, Tapas M R, Syed T & **Jayakumar K V (2019)**, 'Comparison Between Remote Sensing Based Drought Indices for Telangana Region', International Conference on INNOVATIVE TRENDS IN CIVIL ENGINEERING FOR SUSTAINABLE DEVELOPMENT, National Institute of Technology Warangal, Telangana, India, 13- 15 September 2019.
26. Sneha Korpe, Bhaskar Bethi, Shirish Sonawane & **K V Jayakumar (2019)**, " Tannery Wastewater Treatment by Cavitation Combined with Advanced Oxidation Process (AOP)", *Ultrasonic - Sonochemistry*, Vol 59, <https://doi.org/10.1016/j.ultsonch.2019.104723>
27. Dang Dong Ngyuen, Agilan V and **K V Jayakumar (2019)**, "Bivariate Flood Frequency Analysis of Non-Stationary Flood Characteristics', *Journal of Hydrologic Engineering* Vol. 24, Issue 4 [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0001770](https://doi.org/10.1061/(ASCE)HE.1943-5584.0001770)
28. Uday Kumar A& **K V Jayakumar (2018)**, " Assessment of environmental flows using hydrological methods for Krishna River, India", *Advances in Environmental Research.* 7 (3), September 2018, pages 161-175. DOI: <https://doi.org/10.12989/aer.2019.7.3.161>
29. Uday Kumar & **K V Jayakumar (2018)**, "Assessment of Hydrologic Alteration and Environmental Flow Requirements for Srisaillam Dam on Krishna River, India, *Water Policy (2018) 20 (6): 1176-1190.* <https://doi.org/10.2166/wp.2018.203>, Dec 2018
30. Dang Dong Nguyen & **Jayakumar K V (2018)**, Assessing Copula Selection for Bivariate Frequency Analysis Based on Tail Dependency Test, *Journal Earth Systems Science*, Oct 2018; 127(7) DOI: 10.1007/s12040-018-0994-4
31. Mondal N.C., Adike S., Anand Raj P., Singh V.S., Ahmed S., & **Jayakumar K V (2018)** Assessing Aquifer Vulnerability Using GIS-Based DRASTIC Model Coupling with Hydrochemical Parameters in Hard Rock Area from Southern India. In: Singh V., Yadav S., Yadava R. (eds) *Groundwater. Water Science and Technology Library*, vol 76. Springer, Singapore, [https://doi.org/10.1007/978-981-10-5789-2\\_6,978-981-10-5789-2](https://doi.org/10.1007/978-981-10-5789-2_6,978-981-10-5789-2)
32. Nguyen Dang Dong, **K V Jayakumar** & V Agilan (2018), "Impact of Climate Change on Flood Frequency of the Trian reservoir in Vietnam using RCMS", *Journal of Hydrologic Engineering*, American Society of Civil Engineers, DOI: 10.1061/(ASCE)HE.1943-5584.0001609
33. Garima and **Jayakumar K V (2018)**, "Flood Modelling Study of Kondaveeti Vagu, AP", *Journal of Indian Water Resources Society*, Vol 38, No. 3, pp. 19-26
34. Aashi Agarwal, Jyoti P Patil, V C Goel and **K V Jayakumar (2018)**, "A Review on WEAP21 Model for Managing Water Resources, *Journal of Indian Water Resources Society*, Vol 38, No. 4, pp. 38-24
35. Uday Kumar& **K V Jayakumar (2017)**, "Assessment of Hydrological Alterations due to Human Interventions of River flow Regime", 22nd International Conference on Hydraulics, Water Resources & Coastal Engineering - HYDRO 2017, Ahmedabad 21-24 Dec

36. Tripathi, H P. Hari Prasad Reddy and **K V Jayakumar (2017)**, " Optimization of Dosage of Precipitating Agents used for the Removal of Chromium from Tannery Wastewater by Chemical Precipitation", VFSTR Journal of STEM Vol. 03, No.01 (2017) 2455-2062
37. Seenu P Z, E Venkata Rathnam & **K V Jayakumar (2017)**, "Flood Inundation Study of Part of Hyderabad City using SWMM and GIS", 22nd International Conference on Hydraulics, Water Resources & Coastal Engineering - HYDRO 2017, Ahmedabad, 21-24 Dec
38. Mondal, N.C., S Adike, V S Singh, S Ahmed & **K V Jayakumar (2017)**, "Determining shallow aquifer vulnerability by the DRASTIC model and hydrochemistry in granitic terrain, Southern India" J. Earth Syst. Sci, Indian Academy of Sciences, DOI 10.1007/s12040-017-0870-7,
39. Rohith A.N. & **Jayakumar K V (2017)** "Downscaling Precipitation in Hemavathy River Basin by Three Different Approaches". In: Garg V., Singh V., Raj V. (eds) Development of Water Resources in India. Water Science and Technology Library, vol 75. Springer, Cham, DOI: 10.1007/978-3-319-55125-8\_16
40. Rohith A N & **K V Jayakumar**, (2016) "Changes in Daily Intensity-Duration - Frequency Relationships for Precipitation under Climate Change Scenario for Warangal" 3rd National Conference on Water, Environment and Society (NCWES - 2016), June 2016 pp 356-361 ISBN: 978-98-5230-124-9
41. Madhumathi Devi B & **K V Jayakumar (2016)**, "Estimation of Chromium Reduction Potential of Two Wetland Plants using Pilot Scale Constructed Wetlands", International Journal of Environmental Science, Toxicology and Food Technology", Vol.10, Issue 8, pp.11-17
42. Uday Kumar & **K V Jayakumar (2016)**, "Hydrological Approach to Develop Environmental Flow Duration Curve", National Conference on Water Resources and Flood Management with Special Reference to Flood Modelling, under the aegis of Indian Society for Hydraulics, 14-15 October, SVN IT, Surat
43. Mondal, N C, A. Bhuvaneshwari Devi, P. Anand Raj, S. Ahmed & **K V Jayakumar (2016)**, "Estimation of aquifer parameters from surfacial resistivity measurement in a granitic area in Tamil Nadu" Current Science, VOL. 111, NO. 3, pp. 524-534
44. Rohith A N & **K V Jayakumar (2016)**, "Downscaling Precipitation to Hemavathy River Basin Scale by Three Different Approaches", National Conference on Water Resources and Hydropower held during 17th -18th June 2016 at University of Petroleum and Energy Studies, Dehradun.
45. Shimna Paulose, P Hari Prasad Reddy & **K V Jayakumar (2015)**, "Effect of Alkaline Solutions on Hydraulic Conductivity of Soils", Proceedings of the National Conference on Technological Innovations for Sustainable Infrastructure, 13-14 March, NIT Calicut, pp.124-128
46. Shimna Paulose, P Hari Prasad Reddy & **K V Jayakumar (2014)**, "Swell Potential of Soils Contaminated with NaOH Solutions", Indian Geotechnical Conference, ICC-2014, Kakinada, pp.1772-1779
47. Madhumathi Devi B & **K V Jayakumar (2014)**, " Phytoremediation Studies on Tannery Effluent using Pilot-Scale Constructed Wetlands", Proceedings of the International Conference on Hydrology and Watershed Management with a focal theme on Ecosystem Resilience - Rural and Urban Water Requirements", Allied Publishers, pp.361-371
48. Girish Gopinath, Ashitha M K & **K V Jayakumar (2014)**, " De-siltation study in a Tropical reservoir of Central Kerala, India- A success story", Environmental Earth Sciences, Springer, DOI: 10.1007/s12665-014-3344-0
49. Priyanka Narayanan and **K V Jayakumar (2014)**, "Forward osmosis for the treatment of domestic and tannery effluent", accepted for presentation at the 3<sup>rd</sup> International Conference of GIS and Remote Sensing in Hydrology, Water Resources and Environment (ICGRHWE14) Guangzhou, China August 24-27, 2014 (accepted for presentation)
50. Anoop CK, E.Venkata Rathnam & **K V Jayakumar**, (2014), "An Isotopic Approach for Water Management in Urban Areas", Proceedings of the national workshop on Challenges and Perspectives of Conservation in Urban Areas", organised by the Central Groundwater Board at Hyderabad, 20th March 2014.
51. Shilpa L S, Anoop CK, E.Venkata Rathnam & **K V Jayakumar**, (2014), "Effects of urbanisation on Groundwater Resources", Proceedings of the national workshop on Challenges and Perspectives of Conservation in Urban Areas", organised by the Central Groundwater Board at Hyderabad, 20th March 2014.



52. Yadav S, N. Haripriya, P.Mandal & **K V Jayakumar**, (2014)"Monitoring of Particulate Matter during Post Diwali Week - A Case Study of NIT Warangal Campus", Proceeding of the National Conference on Environment: Pollution and Protection (EPP-2014), NIT Durgapur Jan 30-Feb 2k
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54. Anoop C K, M. Shashi, E.Venkata Rathnam & **K V Jayakumar** (2013), "Surface Runoff Estimation and Water Balance Studies of Dharmasagar Tank Using Geographical Information Systems:, Proceedings of the National Seminar on Irrigation Technologies of the Kakatiyas, Nov 9-13, 2013, pp 35-44
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121. **Jayakumar, K V** (1998), "Participatory Irrigation Management", Workshop on Quality Control in Irrigation Works, Quality Control Circle of Sri Rama Sagar Project, Warangal, November 30
122. **Jayakumar, K V** & Noble Jacob (1997)," Constructed Wetlands for Urban Stormwater Management", National Seminar on Environmental Pollution and Bioremediation, XXII Annual Conference of Environmental Mutagen Society of India, February.
123. **Jayakumar, K.V**(1996), "Urban Drainage Problems in Warangal", Workshop on Urbanisation - A Case Study of Warangal Municipal Corporation, Warangal, December.
124. Bipin Bihari Lal & **Jayakumar, K V** (1994), "Incentives to Contractors - An Aid to Scheduled Completion of Construction Projects", International Conference on Contract Management in Construction Industry, New Delhi, March.
125. Srinivas, P.S.R. & **Jayakumar, K V** (1994), "Remote Sensing Applications in Irrigation Water Management - A Review", Water Congress 94, Centre for Water Resources Development and Management, Kozhikode, May
126. Srinivas, D. Ravi Sanker, J. & Jayakumar, **K V** (1994), "Socio-economic Impact Assessment of Irrigation Projects", Water Congress 94, Centre for Water Resources Development and Management, Kozhikode, May.
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128. **Jayakumar, K V** (1985)," Optimal Design of Urban Drainage and Sewerage Systems", Proceedings of the National Seminar on Estimation of Runoff for Design of Urban Drainage Systems, New Delhi, December.
129. **Jayakumar, K V** & Sakthivadivel, R (1983).,"Synthetic Streamflow Generation - Comparative Case Study of Single - Site and Multi-Site Models", Proceedings of the National Symposium on Planning and Development of Water Resources, Patna, February.
130. Sundararajan, T, **Jayakumar, K V**, & Pundarikanthan, N.V. (1983)," Mini and Micro Hydel Plants - Some Case Studies in Tamil Nadu", Proceedings of the National Seminar of Design of Mini and Micro Hydel Plants, New Delhi, February.

#### **PhD Theses Supervised:**

##### **Completed:**

1. Experimental Studies on Treatment of Settled Municipal Wastewater Using Constructed Wetlands (Mallikarjun. N. Dandigi, 2003, presently Professor at PDA College of Engineering, Gulbarga, Karnataka)
2. Urban runoff simulation and optimization of stormwater detention ponds storage -releases (E.Venkata Rathnam, 2006, Late Professor of Civil Engineering, NIT Warangal, )
3. Irrigation Scheduling Based on Soil Moisture Studies and Crop Yield Under Water Deficit Conditions (K.Thirupathi Rao, 2007, presently Vice-Principal, Vaagdevi College of Engineering College, Warangal).
4. Performance Studies off Irrigation Projects through Performance Indicators (Mrs. Jyothi Prasad, 2009, presently Professor, GB Pant University of Agriculture and Technology, Pantnagar, Uttarakhand)
5. Studies on Changes in Rainfall - Runoff Relationship due to Changes in Land Use - A Regional Case Study on Krishna Basin" (Ch.Sarala, 2010, Jointly with Prof. B Venkateswara Rao, JNTU, Hyderabad, presently Professor, Centre for Water Resources, JNTU Hyderabad)
6. A Study on the Environmentally Stable Isotopes, Physico-Chemical Water Quality Parameters and Urban

Lake- Groundwater Interactions (C K Anoop, Jointly with Dr E Venkata Rathnam, Anoop is presently Professor at Viswajyothi College of Engineering and Technology, Muvattupuzha, Kerala)

7. Impact of climate change on hydrological regimes in the Saigon-Dongnai River basin (Dang Dong Ngyuen, 2019, ICCR Research Fellow from Vietnam)
8. A Study on Environmental Flow Requirements in Krishna River Basin (A Uday Kumar, November, 2020, presently Junior Scientist at Central Groundwater Agency)
9. Climate Change Impacts on Floods in Urbanising Areas (Seenu P.Z, April, 2022, presently Assistant Professor, VNR Vigyan Jyothi Engineering College, Hyderabad)
10. Assessment of Drought and Crop Yield: A Climate Change Perspective (Soumyashree Dixit, September, 2022, presently Institute Post-Doctoral Fellow at IIT Bombay)

#### **Ongoing :**

1. Ashok A (Study of Wetland Dynamics with Landsat and Sentinel-2 NDVI and NDWI using Google Earth Engine Platform e, submitted on 31 May, 2023, waiting for Viva-Voce)
2. P Shyam Sundar (Area of Research - Performance Evaluation of Irrigation Projects, joined in December, 2016, presented pre-submission open seminar on 18<sup>th</sup> May, 2023)

#### **Post-Doctoral Women Scientist:**

Dr B Madhumathi Devi (UGC Post-Doctoral Fellow for Women Scientist - worked on Phytoremediation of tannery effluents using constructed wetlands – 2012-2017)

#### **Countries visited**

Thailand, Malaysia, Australia, USA, Tanzania, Germany, France, UAE, Sri Lanka, The Netherlands, Fiji

#### **MTech Thesis Supervised (Name of the student and the year of completion in brackets)**

(Various areas of Water Resources and Environmental Engineering, Remote Sensing and GIS, Urban Water Management, Construction Technology & Management, etc.)

1. Design and Analysis of Stormwater Drainage System for a Part of Warangal City using SWMM (G.Bangari Naidu, 1994)
2. Urban Stormwater Modelling - A Case Study using SWMM (S. Srinivas, 1994)
3. Synoptic Diagnostic Analysis of Sri Rama Sagar Project (K. Rajeshwar, 1995)
4. A Laboratory Simulation to Study Surface and Subsurface Hydrologic Process (E. Radhakrishna Reddy, 1995)
5. Effective Classification of Small Area Crops using High Resolution Data (P.S. R.Srinivas, 1995)
6. Estimation of Flood Peak by SCS TR 55 Method for Urban Drainage Designs and Development of Constructed Wetlands for a Part of Warangal Town (Ch. Sarala, 1996)
7. Design and Analysis of Stormwater Drainage Network using SWMM (S.A. Javeed, 1996)
8. Design of Detention and Retention Facilities for Stormwater Management for the Campus of REC Warangal (T. Brahmachary, 1996)
9. Evacuation Model for Bhadrachalam Town using Geographic Information System (B.Srinivasa Rao, 1997)
10. Stormwater Pollution Control using Constructed Wetlands for a Part of Hyderabad City - A Case Study using SWMM (Noble Jacob, 1997)
11. Laboratory Investigations of Soil Erosion in an Irrigation Canal (K.V. Naga Jyothi, 1997)
12. Use of Stormwater Management Model for Analysis and Design of Stormwater Drainage Network - A Case Study of a Part of Hyderabad City (R.Suguna Devi, 1997)
13. Farmers' Participation in Irrigation Management- A Case Study on DBM- 26 of Sri Rama Sagar Project (P.Sudhakara Rao, 1997)
14. Effect of Engineering Properties on Soil Erosion in an Irrigation Canal (G.V. Praveen, 1997)
15. Estimation of Rainfall Probabilities and Dry Spells at Selected Agro-Climatic Locations of Andhra Pradesh

(Y.Abdul Basheer, 1997)

16. Stormwater Management for Kazipet- Hanamkonda Region using SMADA (V. Sridhar, 1998)
17. Watershed Management Studies (N. Ajay, 1999)
18. Study of Water Saving Strategies in the Command Area of DBM-22 of Sri Ram Sagar Project (V. Srinivas, 1999)
19. Participatory Irrigation Management Application to DBM- 38 of Sri Ram Sagar Project (K. Ravinder, 1999)
20. Study of Watershed Soil Erosion and Deposition Using ANSWERS Model (P.Salini, 1999)
21. Two-Dimensional Simulation of Basin Irrigation (D.V.S.Rama Prasad, 1999)
22. Use of SWMM and Remotely Sensed Data for the Analysis and Design of Stormwater Drainage Network: A Case Study (V.Srinivas, 1999)
23. Drought Assessment using Remote Sensing and GIS (G.V. Rupesh Kumar, 2000)
24. Performance Evaluation of Irrigation Systems using Comparative Indicators (P.S. Sowbhagya Rao, 2000)
25. Stormwater Management of REC Campus and Design of Treatment Wetlands (K.Rajeshwar Rao, 2001)
26. Environmental Impact Assessment of Medaram Tribal Festival (Balakrishna, 2001)
27. Studies on On - farm Development of DBM- 22 (T. Kantha Rao, 2001)
28. Geographical Information System Applications in Groundwater Studies of Keesra Mandal, Ranga Reddy District (T. Krishna Kanth, 2001)
29. Multicriteria Decision Analysis for Landslide Hazard Zonation Using Information Value Methods in Parts of Himalaya, Using Remote Sensing and GIS Ms. (B.Aruna, 2001)
30. Forest Management Tool Through Customisation of ARC/Info GIS- A Case Study (M.P.Kadam, 2002)
31. Water Resources Evaluation of Watersheds using ARCVIEW Soil and Water Assessment Tool- A GIS Based Approach (K.Ramesh Chaitanya, 2002)
32. An Approach to Multiresolution Segmentation Based Fuzzy Classification - A Comparative Study (T.Sanjeev Kumar, 2002)
33. Hydrological Assessment of Watersheds Using ArcView Soil and Water Assessment Tool (AVSWAT)- A GIS Based Approach (Nagul Nanne Shaik, 2003)
34. Integrated Watershed Modelling Using GIS (Sanganabassaya, 2003)
35. Development of GIS Interface Program for Soil Erosion Modelling and Watershed Management (D.SathishKumar, 2003)
36. Long Term Fluctuations of Groundwater Levels in Dharmasagar Mandal using Statistical Approach (Dao Huy Hoang, 2004)
37. Urban Storm Sewer Design using StormCAD (K.Pavan Kumar, 2004)
38. Study of Sea Surface Temperature and Drought using low resolution images (A. Varaprasad, 2004)
39. Design of Urban Stormwater Drains using Flowmaster (P.Nandalal, 2005)
40. Village Level Water Balance Study (G.Usha Rani, 2005)
41. Development of Synthetic Unit Hydrograph for a Typical Ungauged Catchment in Eastern Ghats Region of AP-India (Shaik Mohammed Saheb, 2005)
42. Water Evaluation and Assessment for Nizamsagar Project using-WEAP (Vasu Vadlamani, 2006)
43. Conjunctive use of Surface and Groundwater in Sriram Sagar Project Stage-II (Reshma Tabassum, 2007)
44. Statistical Analysis of Wastewater Quality Parameters from a Pilot Wetland (Anupama, 2007)
45. Estimation of Soil Erosion for Different Crops from an Agricultural Watershed (Y.Srilatha, 2007)
46. Analysis of Non-reactive and Absorbing Solute Transport in Porous Media using ENO Scheme (A.Sudheer, 2007)
47. Watershed Analysis for the Study of Hydrologic Impacts in a Watershed using BASIN Software (K V Saradhi, 2008)
48. Managing Regional Groundwater Systems: A Study at Valapattanam River Basin of North Kerala (E.Abdul Hameed, 2010, submitted to NITK, Surathkal)
49. Rainfall-Runoff Modelling of Loktak Lake - A Ramsar Site in Manipur State by Soil and Water Assessment Tools(ArcSWAT) (Smurtri Ranjan Pradhan, 2013)

50. Use of Biotechnology Interventions for the Treatment of Tannery Effluent in Warangal (Mayuri Yadav, 2013)
51. Risk Management in Construction Industry (Jaswant Konatham, 2013)
52. Prioritisation of Urban Drainage Rehabilitation Zones using Analytical Hierarchy Process (Nikhil B, 2013, Jointlywith Dr E Venkata Rathnam)
53. Benchmarking of Irrigation System: A Case Study of a Medium Irrigation Scheme in Warangal District (Rahul Kumar Singh, 2014)
54. Conjunctive use Planning and Irrigation Management in DBM 23 of SRSP Command Area (Poduri Sri Lalitha Sarada, 2014)
55. Synoptic Study of Groundwater in Warangal District (Shilpa L S, 2014)
56. Estimation of Roughness Coefficient and Evaluation of Cropping Pattern under DBM 23 of SRSP Command (Akash Sinha, 2014)
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59. Studies on forward Osmosis for the Polishing of Secondary Treated Wastewater (Priyanka N, 2014)
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- ChangeScenario (Syed Tayyaba, 2020)
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  122. Analysis of Surface and Groundwater Interaction in Harangi River Basin Using Surface and Sub Surface Hydrological Models (Nilay Dutta, 2023)
  123. Application of Flood Risk Index in Flood Hazard Mapping (Shivam Satyadarshi, 2023)

**Languages known:**

Can read, write and speak besides English, Malayalam, Tamil, Telugu, Kannada, Hindi, with elementary working knowledge in German, Frenchand Russian.